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What are the Barriers and Facilitators to Choosing Orthodontics as a Career

Does Gender Have an Effect?

WHAT ARE THE BARRIERS AND FACILITATORS TO CHOOSING ORTHODONTICS AS A CAREER; DOES GENDER HAVE AN EFFECT?

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Author’s declaration

I declare that the work in this dissertation was carried out in accordance with the requirements of the University's *Regulations and Code of Practice for Research Degree Programmes* and that it has not been submitted for any other academic award. Except where indicated by specific reference in the text, the work is the candidate's own work. Work done in collaboration with, or with the assistance of, others, is indicated as such. Any views expressed in the dissertation are those of the author.

SIGNED: *Jenifer Jopson* DATE: 15/07/2020

Abstract

Introduction: In recent years female representation within the specialty of orthodontics has increased. Whilst this may be suggestive of gender equality, women experience occupational segregation. Despite a significant proportion of dentists choosing to specialise in orthodontics, there is a national shortage of Orthodontic National Health Service (NHS) Consultants and clinical academics. There has been seldom research into the factors that reinforce gender disparities within orthodontics and the factors affecting career progression.

Aims: Through a gendered lens, this research investigated the barriers and facilitators that influence an orthodontic career. Using the concept of an 'orthodontic pipeline', the factors that cause the pipeline to 'leak' were investigated. Explanations of why gender disparities exist within orthodontics and why the profession experiences difficulties in the recruitment and retention to certain posts were explored.

Methodology: This qualitative study was undertaken at Bristol Dental Hospital and Bristol Dental School in 2018. Purposive sampling was used to recruit participants at different stages of an orthodontic career. In total 26 participants were recruited to the study. Eight focus groups, organised by gender and career stage, were conducted. The qualitative data was analysed using inductive thematic analysis.

Results: Five main themes were identified: motivations, facilitators, barriers, and advantages to pursuing an orthodontic career and orthodontic career options.

Conclusions: The movement of people along the orthodontic pipeline is complex and influenced by multiple factors. Many people experience conflicts between career aspirations and psychological, personal, financial, and institutional factors. Recruitment to senior orthodontic specialty posts and clinical academic training are recognised weak points in the orthodontic pipeline. The research draws attention to the factors that reinforce gender disparities in orthodontics. Urgent work needs to be undertaken to address this gender inequality as well as combat the issues undermining recruitment and retention.

Table of Contents

List of Tables

List of Figures

List of abbreviations

ACF	Academic Clinical Fellowship
ACL	Academic Clinical Lectureship
BOS	British Orthodontic Society
CCST	Certificate of Completion of Specialist Training
DCT	Dental Core Training
DFT	Dental Foundation Training
DDS	Doctorate in Dental Surgery
FTTA	Fixed Term Training Appointment. Historical term for post CCST
GDC	General Dental Council
GDP	General Dental Practitioner
HEE	Health Education England
ISFE	Intercollegiate specialty fellowship examination
MOrth	Membership in Orthodontics
MSI	Multi-station Interview
NHS	National Health Service
NIHR	National Institute for Health Research
OMFS	Oral and Maxillofacial Surgery
PIS	Participant Information Sheet
SPA	Supporting Professional Activities
SpR	Specialist Registrar. Historical term for StR
ST	Specialty Training
StR	Specialty Training Registrar
UK	United Kingdom
US	United States

Chapter 1: Introduction

The United Kingdom (UK) boasts one of the most professionalised dental workforces in the world. The dental workforce comprises dentists and six groups of dental care professionals (dental nurses, dental hygienists, dental therapists, orthodontic therapists, dental technicians and clinical dental technicians) all of which are registered with the UK statutory regulatory body, the General Dental Council (GDC) (Dental Workforce Advisory Group, 2019). The demographics of the UK dental workforce have changed significantly over the last 50 years, as the number and proportion of women entering the profession of dentistry has profoundly increased (Newton *et al*., 2000; Stewart and Drummond, 2000; Duguid and Drummond, 2002; Puryer *et al*., 2017). Female dentists now comprise 50% of the dental workforce (GDC, 2020). The increasing representation of women in dentistry is evidence of occupational feminisation. In this dissertation, occupational feminisation is used as a term to describe the movement of women into careers that were previously dominated by men (Le Feuvre, 2009). The term does not refer to the overrepresentation of women within professions.

Approximately 10% of UK dentists will undertake postgraduate training to pursue a specialist career in one of the thirteen dental specialities recognised by the GDC (GDC, 2020). For UK dentists, entry on to the specialist list usually occurs following the award of a specialist membership diploma, with one of the surgical Royal Colleges and completion of GDC approved specialty training, which has led to a Certificate of Completion of Specialist Training (CCST) (GDC, 2019a). Despite the proportion of female dentists increasing, which now equals that of men, only 43% of dental specialists are women (GDC, 2020). The data demonstrates a slower rate of movement of women into specialist cadres of dentistry. It is possible to hypothesise that this lag is reflective of the time taken to become a dental specialist and that with time, female representation within specialist areas of dentistry will increase. A second hypothesis is that despite the increased representation of women in the profession, barriers and processes may be in operation within the institution of dentistry that can obstruct a woman from fulfilling her career aspirations (Le Feuvre, 2009). This dissertation acknowledges the wider debate of the impact of occupational feminisation in

dentistry. However, it is interested in exploring the impact that gender and occupational feminisation has on the dental specialty of orthodontics.

Orthodontics is a dental specialty concerned with dentofacial growth, development of the occlusion and the diagnosis, interception, and treatment of malocclusions and facial irregularities. Orthodontics aims to improve function, aesthetics, and psychosocial wellbeing (NHS England, 2015). Orthodontics, like dentistry, is undergoing a feminisation process. It is one of the few dental specialities where there is currently an equal representation of women and men registered on the specialist list (GDC, 2020). At present, more women than men are entering an orthodontic career with greater numbers of women undertaking orthodontic specialist training (Little *et al*., 2016). Following completion of specialty training, an orthodontist may choose to work within primary care as a specialist, continue in postgraduate training to become a National Health Service (NHS) Consultant or university clinical academic. Occasionally orthodontists that have undertaken all the required training, will choose to work within all three of these areas. To become an orthodontic NHS Consultant, a specialist must undertake a further two years of postgraduate training, known as post CCST training (NHS England, 2015). For those wishing to become orthodontic clinical academics, there is a defined clinical academic training pathway which in part, runs concurrently with pre and post CCST training (HEE, 2018a). Despite a significant proportion of women and men choosing to specialise in orthodontics, there is currently a national shortage of orthodontic NHS Consultants and orthodontic clinical academics, which raises serious concern to those in positions of strategic importance and leadership (Ireland, 2001; Dental Schools Council, 2018; Sandler, 2018). Moreover, within clinical academia, women occupy the majority of junior academic positions, yet are underrepresented in senior positions (Dental Schools Council, 2017; Dental Schools Council, 2018). Contradictions such as these, challenge the perception that an orthodontic career is inclusive and equitable.

The underrepresentation of women in senior positions of clinical academia and a lack of female orthodontists in positions of strategic relevance, indicates that an orthodontic career is not as structurally stable or as ‘equal’ as it may appear, which raises some interesting reflections on gender equality and equity within the specialty. Gendered segregation within careers has the potential to reinforce gender disparities and has direct implications on the progression of people throughout careers. This dissertation argues that statistical evidence

of feminisation is a poor marker of gender equality, which does not consider the issues facing women and men as they progress in an orthodontic career. Considering the national shortage of NHS Consultants and clinical academics and the substantial roles they have in service provision, teaching, research, and management, it is essential that research is carried out to gain a deeper understanding of the situation.

Influenced by feminist scholarship, this dissertation uses the theory and concept of the 'career pipeline' to explore the mechanisms that determine success in an orthodontic career (Berryman, 1983; Blickenstaff, 2005). The theory assumes that people progress sequentially along a career pipeline. If the pipeline 'flows', people will progress efficiently through the pipeline, which will ensure posts are adequately filled. However, if people do not attain designated career goals, or leave the profession, then the pipeline is described as 'leaky'. It is important to investigate the circumstances that cause the pipeline to 'flow' and 'leak' due to the implications on recruitment and retention within a workforce. Appreciating how different groups of people move through the pipeline should provide an insight into the degree of equality and equity within the profession.

There has been little research into the factors that influence orthodontic career progression. Therefore, to gain an insight into how the pipeline flows, it is important to investigate the factors affecting orthodontic career progression, at the various stages of an orthodontic career. By conducting research in this area, practical recommendations might then be suggested to meet the needs of people at each career stage, which may help to address issues with recruitment and retention. Due to the limited research in this field, the use of qualitative research principles is appropriate, as opposed to more traditional positivist research methods. Qualitative research methods provide an opportunity to gain a unique insight into the opinions and experiences of people in an orthodontic career. In novel areas of research, this approach promotes the generation of theories, which can form the basis for further research (Bryman, 2012). In relation to this study it may aid understanding of the factors affecting this desirable yet arduous career pathway.

1.1 The Aims of the Study

The aim of this research was to investigate the barriers and facilitators that influence an orthodontic career. The research investigated this through a gendered lens, by exploring the effect gender has on choosing orthodontics as a career and its effect on career progression beyond initial specialisation. The concept of a 'leaky pipeline' during an orthodontic career was investigated by exploring the factors that cause people to drop out of the pipeline. It was hoped that by undertaking this research, explanations will be provided into why gender disparities exist within the profession and why there are such difficulties with recruitment and retention to posts, namely post CCST and clinical academia. These findings may then help identify changes that can be made to support individuals along the orthodontic career pipeline, with the aim of improving gender equality, diversity, recruitment, and retention within the orthodontic workforce.

1.2 The Objectives of the Study

- Investigate the barriers and facilitators that influence a career in orthodontics
- Explore how the factors influencing an orthodontic career change during career progression
- Identify whether a 'leaky pipeline' exists in orthodontics, that may affect the movement of people along an orthodontic career
- Investigate through a gendered lens, the effect of gender on an orthodontic career
- Discover why gender disparities within the orthodontic profession exist and the challenges facing recruitment and retention to certain posts
- Describe changes that could be made to support individuals along the orthodontic pipeline to ensure a fairer, more equitable, diverse workforce

Chapter 2: Literature Review

2.1 Background

This dissertation is concerned with the barriers and facilitators that influence an orthodontic career, from entry into the specialty, through to an NHS Consultant and clinical academic. The study involves exploring the specialty of orthodontics through a lens of gender and equality. It is considered both appropriate and timely that such an analysis is undertaken because of the relative rise in the number of women entering dentistry, and more specifically, orthodontics, which are professions that were previously dominated by men. A gendered analysis of the profession of orthodontics is needed to ensure gender equality and equity exists within the profession. Gender equality is defined as women and men having identical rights and equal opportunities, whereas gender equity refers to the process of ensuring women and men are treated fairly. It is critical that both are present to ensure that there are equal and fair opportunities for women and men in the professional workforce (Reichenbach and Brown, 2004).

The literature review comprises of four substantive themes:

1. Gender demographics within higher education, dentistry, the dental specialities, orthodontics and orthodontic clinical academia
2. A summary of the career pathways within orthodontics
3. The theory and concept of the orthodontic pipeline
4. The factors influencing a dental and orthodontic career

2.2 Gender Demographics within Higher Education, Dentistry and Orthodontics

2.2.1 Gender Demographics within Higher Education

Legislation promoting gender equality and expanding opportunities has increased female representation in higher education (Morley, 2007; Equality Act, 2010). Since the early 1990s there has been an increasing gender disparity between the number of women and men participating in higher education (DIUS, 2008). In 2018/19 340,000 more women than men undertook higher education qualifications (Higher Education Statistics Agency, 2020). Despite this, there has been ongoing concern with the underrepresentation of women in science, technology, engineering and mathematics (STEM) subjects and how this translates

into female representation in the STEM workforce (British Council, 2016). Interestingly at a higher education level, the definition of a STEM subject changes and encompasses a broad range of subjects that may not have been traditionally considered STEM, for example medicine and dentistry (Science and Technology Committee, 2012). Figures demonstrate that in 2019, more women than men were accepted to study the following STEM subjects; medicine (62%), dentistry (64%) and veterinary medicine (81%) (UCAS, 2020). The inclusion of these non-traditional disciplines as STEM subjects, where women are overrepresented promotes the perception that female participation in STEM subjects is high, when in fact women remain underrepresented in computer science (15%), physics (25%) and engineering (28%) (UCAS, 2020).

2.2.2 Gender Demographics of UK Dentists

Female representation in dentistry has changed dramatically over the last 125 years and has increased significantly over the last 50 years (Newton *et al*., 2000; Duguid and Drummond, 2002; Puryer *et al*., 2017). Lilian Lindsay was the first female to qualify as a dentist in the UK, in 1895 (British Dental Association, 2018). By 1937, 3.2% of all dentists registered with the GDC were women and by 1968 this figure had increased to just over 10% (Brooks, 2019; Stewart and Drummond, 2000). In 2019, for the first time, just over half of all registered dentists were women (GDC, 2020). There is evidence that female representation in the dental workforce is continuing to increase, as more women than men enter the profession. In the case of dentists aged under 35, women now compromise the majority (52%), whilst in the over 55 age group, men are in the majority (54%) (NHS Dental Statistics, 2019). In 2019, more women than men applied to studied dentistry (62%) and more women were successfully awarded a place to study dentistry (64%) (UCAS, 2020). The similarity between these two figures is suggestive of a fair undergraduate interview process, as both genders are proportionally represented in the numbers of those applying and those accepted to study dentistry. The rise of women entering dentistry, from which they were previously underrepresented, is evidence of occupational feminisation (Le Feuvre, 2009).

2.2.3 Gender Demographics of UK Dental Specialists

Approximately 10% of dentists will continue training, following the award of an initial dental qualification, on a postgraduate training pathway to become a specialist in one of the

thirteen disciplines recognised by GDC. Despite increasing female representation within dentistry, figures demonstrate that this in not translated across all the dental specialties, with evidence of gendered horizontal segregation *i.e*. the clustering of a gender in a subject area. At specialist level, women are overrepresented in paediatric dentistry, special care dentistry and oral microbiology and underrepresented in prosthodontics, endodontics and restorative dentistry. See Table 1 for a list of the dental specialities and total number of registrants registered by gender (GDC, 2020).

List of dental specialities	No. of females	No. of males	% of females
Prosthodontics	105	342	23%
Endodontics	80	230	26%
Restorative Dentistry	81	214	27%
Oral surgery	237	499	32%
Periodontics	127	260	33%
Oral Medicine	30	40	43%
Oral and Maxillofacial Pathology	16	18	47%
Orthodontics	703	680	51%
Oral and Maxillofacial Radiology	15	13	54%
Dental Public Health	56	42	57%
Oral Microbiology	5	2	71%
Special Care Dentistry	213	80	73%
Paediatric Dentistry	191	51	79%
Total	1859	2471	43%

Table 1: Total number of registrants on the GDC dental specialist lists registered by gender as of March 2020 (GDC, 2020).

2.2.4 Gender Demographics within the Specialty of Orthodontics

Within the dental specialty of orthodontics, women and men are almost equally represented (GDC, 2020). Cross-sectional studies carried out in the noughties investigating

the demographics of the orthodontic workforce, highlighted that female orthodontists are on average younger than their male counterparts, with higher proportions of women in younger age categories (Robinson *et al*., 2005; Murphy *et al*., 2006; Collins *et al*., 2008). Unfortunately, there have been no recently published studies on gender or age demographics within the current orthodontic workforce. However, at present, more women than men are entering orthodontic specialty training and occupy the majority of the junior specialty training posts (Little *et al*., 2016). It is crucial that female representation within the orthodontic workforce is translated across all hierarchical levels, not just at the entrance level. The British Orthodontic Society (BOS) is a registered charity that aims to improve the quality of care provided to patients, by maintaining and improving standards and promoting education and research (BOS, c2014a). Interestingly there are currently nine members on the Board of Trustees for the BOS, of which only three are women (BOS, c2014b).

2.2.5 Gender Demographics in Orthodontic Clinical Academia

There is evidence that within dental clinical academia, female representation is increasing and following a similar trend to dentistry and orthodontics. Table 2 provides data on the gender representation within academic dentistry across all grades since 2004 (Dental Schools Council, 2017). In the Dental Schools Council 2018 survey, 57% of the academic workforce under the age of 46 were women (Dental Schools Council, 2018). Increasing female representation in academic dentistry may be partly a consequence of the Advance Higher Education's Athena Swan Charter, an initiative that was established in 2005. The Athena Swan Charter provides recognition to institutions that promote female representation in higher education, particularly with respect to the STEM subjects (Advance HE, 2019). Despite these advancements, female representation is not increasing at all levels. Females are overrepresented at lecturer level (58%) and underrepresented at professorial level (22%). In orthodontics, this equates to the presence of one female Professor. At the time of writing, there are 5 full time equivalent vacancies across all dental specialities at Professorial level (Dental Schools Council, 2018). The underrepresentation of women in senior positions of academia is demonstrative of vertical segregation (Morley, 2013). The data indicates a 'glass ceiling', which is a metaphor for the unseen barriers that people, usually women or minority groups, experience when trying to progress into the most senior and influential positions of a career (Brown *et al*., 2020).

	2004	2006	2008	2010	2012	2014	2016	% change since 2004
No. of men in dental academic positions	438	428	490	569	576	585	556	+27%
No. of women in dental academic positions	203	206	262	325	371	392	424	+109%

Table 2: Gender representation across all grades within academic dentistry since 2004 (Dental Schools Council, 2017).

2.3 Dental Career Pathways

2.3.1 Postgraduate Dental Training

Following the completion of a recognised UK dental qualification and attainment of specified learning outcomes, newly graduated dentists are eligible to register with the GDC (GDC, 2015; GDC, 2019b). New graduate dentists are expected to undertake a period of postgraduate training within general practice, known as Dental Foundation Training (DFT). DFT enables foundation dentists to enhance their skills, knowledge, and attributes in a supportive environment, which aids the development of a dental career within the NHS (COPDEND, 2015). Following successful completion of DFT, foundation dentists may wish to pursue a career in general dental practice or continue with formal training. Dental Core Training (DCT) is an optional postgraduate training period, that can extend from one to three years and provides Dental Core Trainees with the opportunity to acquire skills that can enable career progression into specialist training (COPDEND, 2016). Figure 1 provides a diagrammatic representation of the pathway into dental specialty training with the average number of dentists entering training annually (Oriel, 2020a). Recruitment at all stages of training is through a competitive national recruitment model (HEE, 2019a).

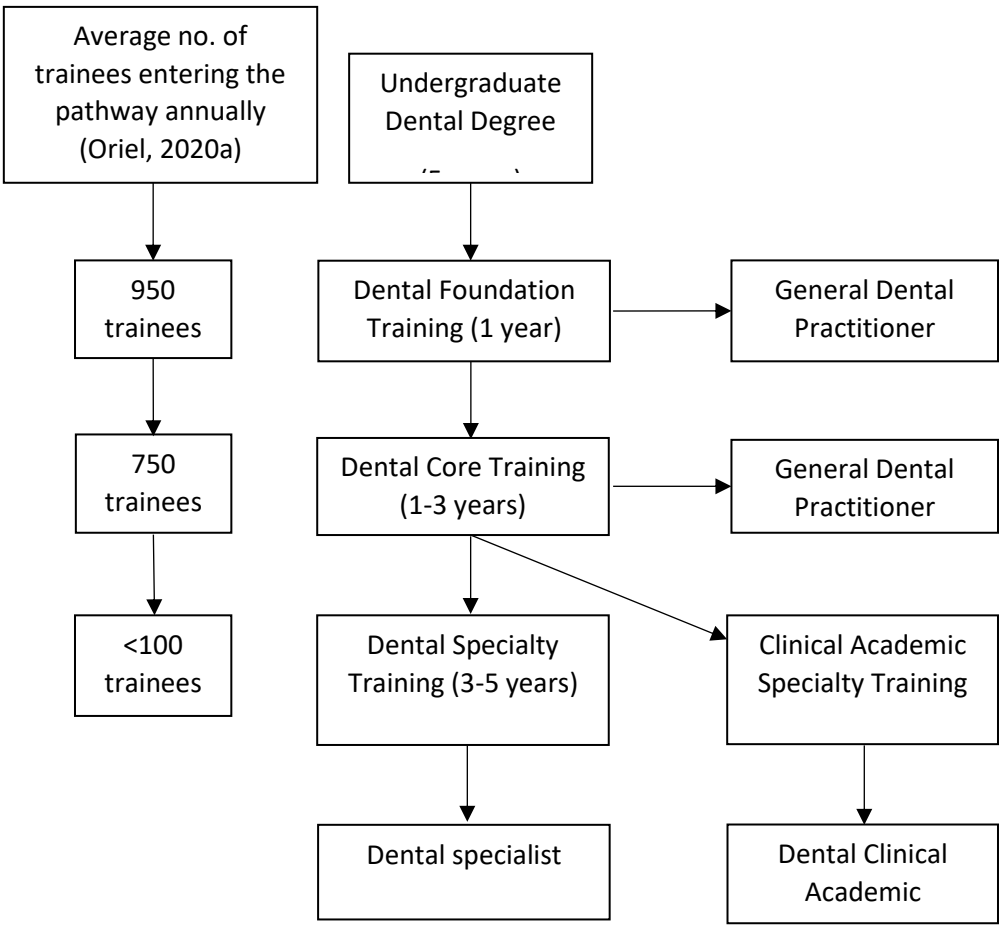

Figure 1: Diagrammatic representation of the pathway into dental specialty training with average number of trainees entering training annually.

2.3.2 Junior Orthodontic Specialty Training

Entry onto an orthodontic specialist training pathway is highly competitive and there are several essential requirements for any UK candidate to attain prior to application:

- A Bachelor of Dental Science degree (or equivalent qualification) recognised by the GDC
- Demonstration of the competencies gained during a UK DFT programme or equivalent training process
- Demonstration of the competencies gained during the first year of a UK DCT post at the time of application and competencies gained during the second year at appointment
- Commitment to the specialty by demonstrating relevant career progression

Other desirable criteria include undertaking a postgraduate examination to gain membership with one of the surgical Royal Colleges (Membership of the Joint Dental Faculties or Membership of the Faculty of Dental Surgery), leading in audits, quality improvement projects and presenting conference presentations and posters (BOS, 2013a; COPDEND, 2018; COPDEND, 2020; Royal College of Surgeons of Edinburgh, 2020a; Royal College of Surgeons of England, 2020a).

Recruitment to an orthodontic specialty training post occurs through a competitive national recruitment model. Approximately 35 orthodontic specialty training posts are advertised annually through Oriel, the UK portal for postgraduate dental training (O'Brien and Spencer, 2015; Oriel, 2020b). National recruitment, an initiative backed by the Department of Health, was initially introduced for Dental Foundation Training in 2012 as a way of ensuring an impartial, fair, and efficient selection process. It is now used as the method of recruitment to select candidates to posts across all stages of dental training (Cook, 2012; HEE, 2020). National recruitment offers an advantage over the previous deanery led recruitment process, as all candidates that fulfil the essential entry criteria as listed on the relevant person specification are offered an interview. Interviews are usually conducted in a multi-station interview (MSI) format, whereby a candidate will rotate through a series of interview stations. Candidates are ranked in order of success during MSIs. Shortlisted candidates are requested to rank training posts in order of preference. Posts are allocated to candidates based on interview rank and order of preferencing. National recruitment necessitates successful candidates be flexible with their choice of training post, particularly with respect to geographical location (Cook and Jones, 2012; Nayee *et al*., 2014; Little *et al*., 2016).

Following success at an orthodontic national recruitment interview, applicants become junior orthodontic Specialty Training Registrars (StR) and are allocated a national training number. In the first instance orthodontic specialty training (ST) takes place over three years (ST1-3) and is based in secondary care, in both teaching and district general hospitals; therefore, is both University and NHS based (NHS England, 2015). In addition to the clinical training there is an essential academic, research component where the StR must undertake a postgraduate degree at Masters (MSc or MPhil) or Doctorate level (DDS), which incurs university tuition fees typically of £9,250 per annum (BOS, 2013b). Whilst in training, StRs in England receive a salary from the NHS of £48,075 (NHS Employers, 2020). After 30 months

of full or part time equivalent junior orthodontic specialty training, ST3s are eligible and expected to sit the Membership in Orthodontics (MOrth) specialty diploma with one of the surgical Royal Colleges. The MOrth examination aims to demonstrate the core knowledge and competencies within the specialty area of orthodontics at the level of a specialist orthodontist (BOS 2013b; Royal College of Surgeons of Edinburgh, 2020b; Royal College of Surgeons of England, 2020b). Once an StR has gained the MOrth diploma and completed three years of full or part time equivalent specialty training, StRs are awarded a CCST which enables registration as a specialist with the GDC (GDC, 2019a). Following registration, orthodontic specialists may decide to leave the training pathway. Orthodontic specialists usually work within primary care and deliver treatment on the NHS or privately. Some specialist orthodontists will continue in training to become NHS Consultants or clinical academics.

2.3.3 Senior Orthodontic Specialty Training

NHS Consultants provide orthodontic treatment in secondary and tertiary care settings to patients, often when orthodontic treatment is considered too complex for specialist practice. Frequently these patients will present with a range of malocclusions requiring multidisciplinary input and management, such as patients with cleft lip and palate or extensive hypodontia. If an orthodontic specialist wishes to become an NHS Consultant, they must apply through a national recruitment process for a further two years of training. Training extends beyond ST3 and the award of a CCST, in a training period known as post CCST. This training period equips senior StRs (ST4-5) with additional knowledge and skills in subject areas not encountered during ST1-3 (NHS England, 2015). After 18 months of full time or part time equivalent senior orthodontic specialty training, ST5s are eligible and expected to sit the Intercollegiate Specialty Fellowship Examination (ISFE) in Orthodontics, which is jointly held by all four of the surgical Royal Colleges (Royal College of Physicians and Surgeons of Glasgow, 2007). Upon passing the ISFE in Orthodontics and successful completion of ST4-5 training, candidates are awarded FDS(Orth)RCS (Shah and Sandler, 2011). It is no longer an essential requirement that orthodontists to have passed the ISFE to be deemed appointable to an NHS Consultant post but this is highly desirable.

In theory, the numbers of specialty training posts in the UK should be carefully controlled to ensure that the workforce is appropriately trained to meet patient need (COPDEND, 2018). It is vital that adequate numbers of orthodontics specialists are trained to fill vacant NHS Consultant posts. Despite excellent recruitment to junior orthodontic specialty training posts (ST1-3), the profession faces difficulties with the recruitment of orthodontists to senior orthodontic specialty training posts. As a result, there is currently a national shortage of orthodontic NHS Consultants (Ireland, 2001; Little *et al*., 2016; Sandler, 2018). Orthodontic Consultants are essential members of the orthodontic workforce due to the complex multidisciplinary treatment they provide and their contributions to undergraduate and postgraduate dental training (Hodge and Parkin, 2015). It is important to understand why ST3s drop out of the orthodontic pipeline prior to post CCST so that recommendations can be made to those in positions of organising dental training.

2.3.4 Orthodontic Clinical Academic Training Pathways

In addition to working as an orthodontist within primary and secondary care, there is the option to pursue a career in clinical academia. Orthodontic clinical academics are essential members of the dental and orthodontic workforce. Alongside clinical duties, clinical academics have significant roles in undergraduate and postgraduate teaching, research, and scholarship (Trotman *et al*., 2002; Dental Schools Council, 2017).

There are two ways to become a clinical academic: via a formal academic training route or via a clinical academic teaching pathway. The latter is a slightly more circuitous route into clinical academia with reduced research requirements. For dental trainees wishing to purse a formal academic career in orthodontics, it is essential to complete a formal academic training pathway, that runs concurrently with junior and senior orthodontic specialty training. There is a requirement that trainees undertake a PhD, which is in addition to the postgraduate qualification (Masters or professional doctorate) required as part of orthodontic specialty training. See Figure 2 for a diagrammatic representation of how clinical academic training runs alongside orthodontic specialty training.

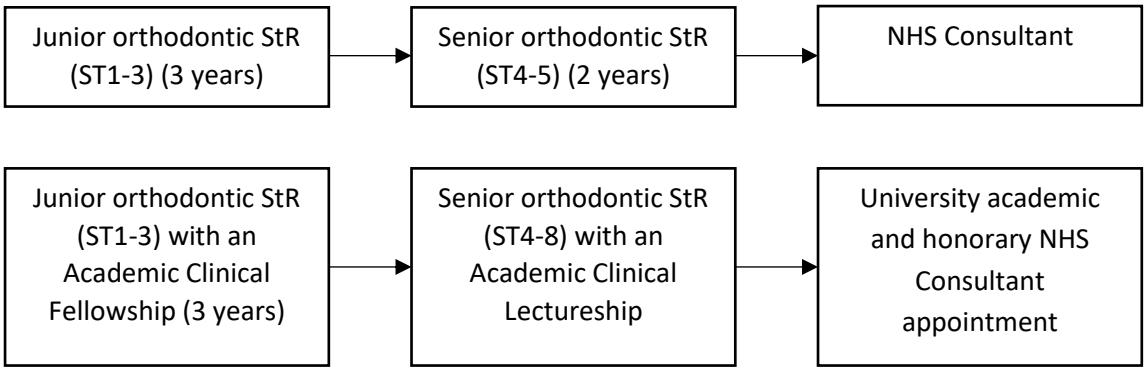

Figure 2: Diagrammatic representation of the orthodontic academic and specialty training pathway.

2.3.5 Academic Clinical Fellowship Post

An Academic Clinical Fellowship (ACF) post represents the first stage of the combined academic and specialty training pathway. Candidates wishing to pursue an ACF training post will need to be considered appointable at national recruitment specialty training interviews and successfully gain the position at a local interview. An ACF is usually a three-year post designed for those wishing to pursue a formal academic career. During this appointment, the trainee will undertake both clinical training (75%) and research (25%). At the end of the ACF post, it is hoped that academic trainees will continue with the next stage of academic training. However, trainees may leave the pathway to either work in primary care or undertake a senior StR training post (NIHR, 2019a).

2.3.6 Academic Clinical Lectureship Post

An Academic Clinical Lectureship (ACL) post represents the second stage of the combined academic and specialty training pathway. Candidates are recruited in a similar process to those applying for ACF posts. However, for a candidate to be eligible for an ACL post, the candidate must have completed a PhD. Depending on the type of training programme, some junior orthodontic StRs will have completed a professional doctorate. However, this is not considered to be equivalent to a PhD by NIHR. Those in ACF posts will split their time equally between clinical training and academia (NIHR, 2019b). Orthodontic academic trainees are still expected to sit the MOrth and FDS(Orth) membership exams at the end of pre and post CCST respectively.

2.3.7 Recruitment to Orthodontic Clinical Academia

There has been apprehension regarding the future of medical and dental clinical academia since the 1990s (Science and Technology Committee, 1995). In 1997 the findings of a Government backed inquiry, investigating the perceptions of medical and dental clinical academics, was published (Science and Technology Committee, 1999). Transcripts from the *Richards Report* were used to develop a nationwide questionnaire on the views of clinical academic dentists. The results drew attention to the concerns regarding the practicalities of an academic appointment and the academic career structure (Goldacre *et al*., 2000). In 2005, the *Walport Report* was published, which drew attention to the alarming absence of academic staff in both dentistry and medicine. The report highlighted three barriers in the recruitment and retention of clinical academics: the absence of an academic career pathway, rigidity of the current academic training and a lack of support post academic training (Modernising Medical Careers, 2005). Following the report, the National Institute for Health Research (NIHR) was created with the aim of supporting those in academic careers (NIHR, 2020). Unfortunately, despite these actions, 25 years on, there is still a shortage of clinical academics. Health Education England (HEE) aims to ensure that patients nationwide receive and have access to high quality oral health care. HEE is currently reviewing the way dental healthcare is provided and seeking ways to reform dental education and training. The proposed changes could see a modular approach to studying at a postgraduate level. HEE propose this will enable greater flexibility for dental trainees, allowing the opportunity to take breaks during their postgraduate education, which may address the issues with recruitment to clinical academia (HEE, 2018b; HEE, 2019b).

In the most recent survey on clinical academic staffing levels, six UK dental schools reported difficulties in the recruitment of orthodontic clinical academic to all grades (Dental Schools Council, 2018). Table 3 lists the grades of clinical academic orthodontists. Previous research has demonstrated that most dental students and orthodontic specialty training registrars do not wish to pursue an academic career (Keith *et al*., 1997; Formicola, 2017; Waylen *et al*., 2017). US research investigating dental academic career progression, reported that undergraduate and senior dentists with academic experience, perceived a clinical academic career to offer an advantageous opportunity to progress both clinical and research skills. However, participants felt that a research career added a burden of having to publish

research. In addition, participants felt that with increasing academic bureaucracy, there was less time available to fulfil these research roles (Trotman *et al*., 2002). As this research was carried out in the US and did not include participants currently pursuing an orthodontic career, the findings may not be representative of the views of UK orthodontic trainees. There has been no UK research investigating the barriers and facilitators in an orthodontic clinical academic career. Consequently, the processes involved in academic career progression are poorly understood and this is an area that warrants further research.

Grade of Academic Orthodontists (Formal academic training)	**Grade of Academic orthodontists (Clinical teaching)**
Lecturer	Teaching Associate
Senior Lecturer/Reader	Senior Teaching Associate
Professor	Clinical Teaching Fellow
	Senior Clinical Teaching Fellow
	Professor

Table 3: Grades of clinical academic orthodontists in ascending grade.

2.4 Processes involved in Orthodontic Career Progression

To understand the gender composition of people within orthodontics, it is worth considering occupational feminisation and the movement of people along an orthodontic pipeline. Appreciating these theories and concepts will help identify the processes that reinforce gender imbalances and cause difficulties in the recruitment and retention to posts.

2.4.1 Occupational Feminisation

Different theories that have attempted to explain occupational feminisation and the implications on gender equality. In this dissertation four different theoretical perspectives are considered:

1. Over time professions become less desirable to men, which provide women with an opportunity to enter careers that were previously overrepresented with men. However, when women enter these careers, they become segregated at a vertical

level with men occupying the most senior and prestigious positions. As a result, men in positions of strategic importance define the processes that determine career success. These processes do not consider the different social practices between men and women, which reinforces a cycle of gender inequality (Le Feuvre, 2009). This theory might be supported in dentistry with the underrepresentation of women in senior positions of clinical academia.

2. Women gain access to professions based on 'feminine' social characteristics. It is argued that some women use gender stereotyping to their advantage and offer professions previously dominated by men a different and more feminine perspective (Le Feuvre, 2009). Research has demonstrated that dental patients view female dentists as caring, empathetic and sensitive, which are reportedly desirable characteristics of a dentist (Smith and Dundes, 2008). To support this view of workplace feminisation, it would be hypothesised that women use gendered stereotypical views to advance careers.
3. Women enter and succeed in careers based on their ability to adopt and accept 'masculine' traits and workplace cultures *e.g*. inflexible working patterns and long working hours. This theory of occupational feminisation is not the consequence of gender equality, as women are expected to reproduce longstanding masculine practices that continue to disadvantage women (Guillaume and Pochic, 2008).
4. The fourth theory supports a notion that women enter careers based on advancements regarding nationwide legislation supporting gender equality. It suggests that once professions have become more 'equal', there is an in-differentiation of previously gendered behaviours. In this progressive view of occupational feminisation, the theory suggests a re-thinking of gender roles within the home and relationships. As a result, women and men both need to modify their career aspirations to undertake unpaid domestic duties (Le Feuvre, 2009).

2.4.2 The Orthodontic Pipeline

To try to understand how people move through a career, it is worth considering the movement of people along an orthodontic career ladder or an 'orthodontic pipeline' (Figure 3). If people move effectively through the pipeline, it should deliver sufficient trainees to vacant posts and senior positions. For example, it could be assumed that as greater

numbers of women enter the orthodontic workforce, they will progress through careers to occupy senior orthodontic positions previously occupied by men. However, this is a simplistic view of how the orthodontic pipeline flows, as it does not consider that the pipeline leaks. The 'leaky pipeline' posits that during training and career progression there are times at which people may leave and drop out of the pipeline. Although both genders are at risk of 'leaking' out of the pipeline, at present this happens more frequently to women (Blickenstaff, 2005). There are statistical data that suggest the dental and more specifically orthodontic pipeline is leaking in three different ways:

1. Gender compositions within the different dental specialities vary considerably, which is evidence of gendered horizontal segregation. This is explained by the overrepresentation of women in paediatric and special care dentistry and the overrepresentation of men in prosthodontics, endodontics and restorative dentistry. It indicates that women and men leak out of different dental career pipelines prior to specialty training.
2. There is evidence that the orthodontic pipeline leaks for women trying to occupy the most senior positions of clinical academia and positions of strategic importance and leadership. Instead, women remain in junior and less powerful positions due to a phenomenon known as the glass ceiling. The glass ceiling is used a metaphor to describe the barriers that are not often visible to explain why groups of people, usually women or minorities, are unable to progress through a pipeline into the most successful and powerful of positions (Brown *et al*., 2020). A publication by the Recruitment and Retention of Academic Staff in Higher Education found that female academics were less likely to be promoted than their male counterparts (Metcalf *et al*., 2005). Gendered horizontal and vertical segregation has implications for occupational segregation. For employees, occupational segregation can affect career options, prospects, and salaries. For employers, it reduces diversity within the workforce, the ability to attract and retain employees and for companies to develop. From a public perspective, occupational segregation reinforces gender stereotypes (Trade and Industry Committee, 2005).
3. The orthodontic pipeline leaks for women and men with the recruitment of senior StRs, NHS Consultants and orthodontic clinical academics. Statistical data are

insufficient in providing an understanding of how the pipeline 'flows' and 'leaks' and in appreciating the gender inequalities facing career progression and retention. Qualitative research in relation to orthodontic career progression from a gendered perspective has seldom been carried out.

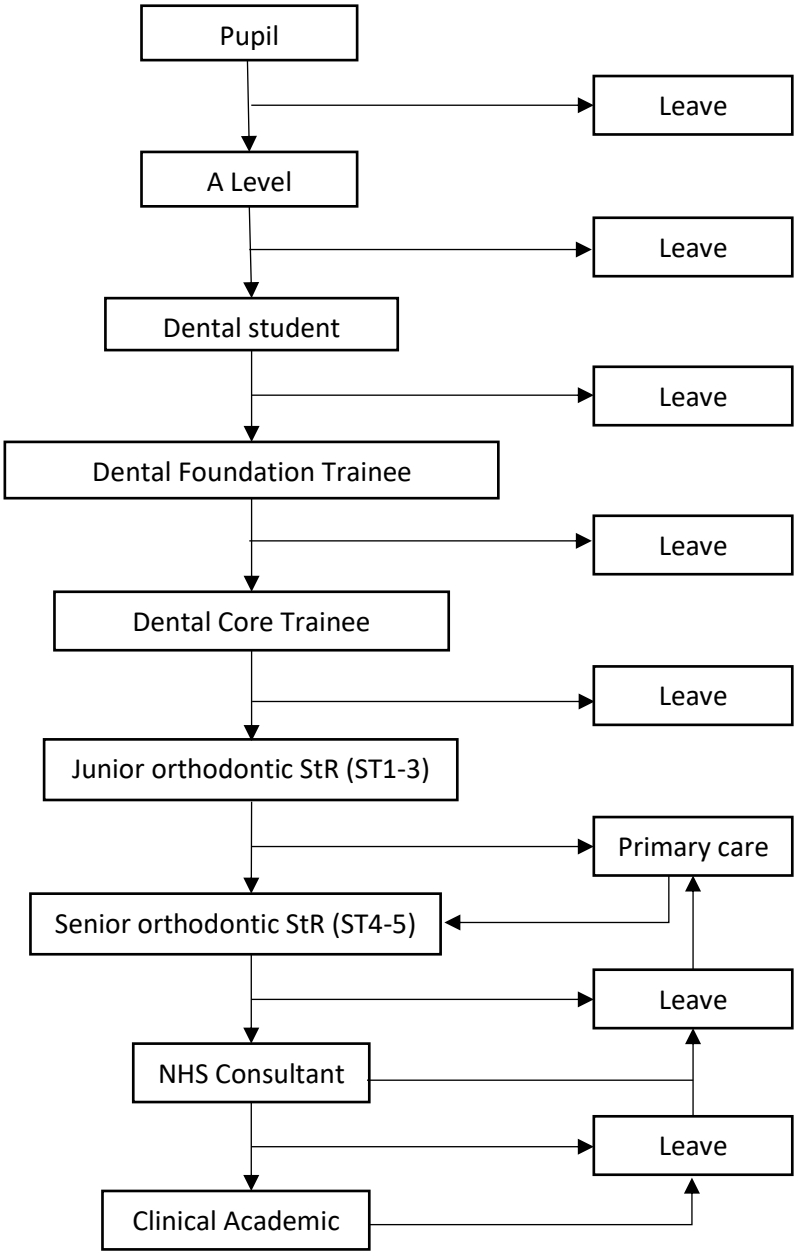

Figure 3: Example of an Orthodontic Pipeline.

2.5 Factors Influencing a Dental and Orthodontic Career

2.5.1 Motivating Factors to a Career in Dentistry

To be able to gain an understanding into how the orthodontic pipeline flows it is important to recognise the motivating factors that influence the decision to study dentistry. Research has identified that both women and men seek dental careers based upon professional status, job security, financial remuneration and the ability to deliver professionalised care to patients (Gallagher *et al*., 2007; Gallagher *et al*., 2008; Gallagher *et al*., 2009; Waylen *et al*., 2017). Dental students perceive a dental career to offer a degree of career flexibility and the ability to work part time, which in part is related to achieving a good work-life balance. Female dental students appear to be particularly motivated by career flexibility and the advantages it may offer them in the future when they have other commitments such as childcare (Gallagher *et al*., 2008; Waylen *et al*., 2017). The perception that dentistry offers career flexibility, a desirable career characteristic for women, may be reflective of the numbers of women pursuing a dental career.

There is a growing awareness that the views held by the emerging workforce are different to that of previous generations that have worked in the NHS. There are currently five generations working together in the NHS (Table 4). By 2025 generation Y will make up 75% of the workforce (Redmond, 2017). Research has demonstrated that the different generations do share some work-related values. All generations value respect, trust and opportunities to learn and develop (McCaffree, 2007). However, professional expectations appear to differ across the generations and if these are not understood it can have detrimental effects on healthcare systems (Dittmann, 2005). Research highlights that members of generation Y do not strive for a work-life balance, instead they expect it to be immediately incorporated into their careers. Financial drivers between the generations also differ, for example, generation Y values flexibility and entrepreneurism, whereas the baby boomer generation values tradition and loyalty. Generation Y are more likely than any other generation to switch jobs during their professional career (Redmond, 2017).

Generation	Birth dates
Silent Generation	Pre 1945
Baby Boomers	1945 – 1963
Generation X	1964 – 1979
Generation Y	1980 – 1999
Millennials	2000 – to date

Table 4: Current generations in the workforce (Redmond 2017).

2.5.2 Career Intentions of Prospective and Undergraduate Dental Students

It is useful to understand the career aspirations of the dental workforce due to the impact it can have on flow of people in the orthodontic pipeline and on the provision of dental services. A cross-sectional survey investigating the career intentions of prospective dental students during interviews at Manchester and Dundee dental schools, reported that upon qualifying as a dentist, 64.9% of all respondents envisaged working within general dental practice and 15.1% expressed a desire to work within secondary care. In addition, the survey investigated the attitudes towards working mothers. Over half the participants perceived that a child would suffer as result of a mother working full time, with fewer respondents believing that a child would suffer if a mother worked part time (Stewart *et al*., 2005). Unfortunately, the survey did not investigate the attitudes towards working fathers. As this study was carried out on prospective dental students it is possible that career intentions change over the course of a dental degree as exposure to different specialities increases. A cross-sectional survey carried out at King's College London Dental Institute supports this. In the survey, 25% of final year dental students expressed a desire to become specialists. Within this sample, female participants anticipated childcare commitments to have the biggest effect on working capacity. Perhaps as a result, significantly more women than men were attracted to working in the NHS due to childcare support and the opportunities available to retain following a career break (Gallagher *et al*., 2009). Interestingly in a cross-sectional study by Stewart *et al*. (2007) higher proportions of female senior dental students were considering working part time and within mixed NHS and private practice, whereas higher proportions of men were anticipating working full time and solely in private practice. Almost half of all respondents (48%) perceived that a career break would be detrimental to

career progression. Dental students thought that male dentists had a career advantage over female dentists as they perceived men were less likely to take a career break and did not share the same family responsibilities as women. These findings are consistent with those reported in a cross-sectional survey carried out at the University of Bristol on the career intentions of undergraduate dental students. Nearly half of all respondents (43%) perceived that men had a career advantage over women (Puryer and Patel, 2016). A limitation of these studies is the lack of generalisability to dental students across the UK. By contrast, a nationwide questionnaire on the career intentions of UK dental undergraduates reported that 75.8% of respondents felt both genders were equally likely to succeed in a dental career. However nearly 20% of female dental students perceived male dentists to have greater chance of career success (Puryer *et al*., 2018). These studies raise some interesting points on the perceptions of equality during a dental career. Due to the cross-sectional nature of these studies it would be interesting to conduct a longitudinal study and follow the participants over time to see how career intentions materialise and whether they experience any issues related to inequality. Surprisingly, none of the participants in these surveys discussed clinical academia as a career option. Unfortunately, none of the studies included examples of the questionnaires used. Therefore, it is difficult to determine whether clinical academia was not selected as a career option or not one of the possible responses.

2.5.3 Aspirations to becoming a Dental Specialist

Cross-sectional survey studies have identified that dental students have high aspirations to specialise following award of their primary dental qualification with orthodontics being one of the most popular dental specialities (Stewart *et al*., 2005; Stewart *et al*., 2007; Gallagher *et al*., 2009; Jauhar *et al*., 2016; Puryer *et al*., 2016; Puryer and Patel, 2016; Lee and Ross, 2017; Puryer *et al*., 2018). Research has demonstrated that enjoyment of the specialty (67.6%) and the patient demographic within that specialty (10.8%) are the single most influential motivating factors for undergraduate dental students considering specialising in an area of dentistry. Length (0.54%), cost (0.54%) of training, specialist salary (7%) and mentors (8%) were the least influential factors (Lee and Ross, 2017). Interestingly, in a qualitative study of UK dental foundation dentists, existing or projected student debt; existing and subsequent job security; the location of training posts and work life balance all influenced career intentions. This research indicates that newly qualified dentists may

modify professional goals to match their personal and financial motivations (Gallagher *et al*., 2007). It is not possible to draw comparisons between these pieces of research due to the lack of generalisability between the studies. However, the research would suggest that motivations change over the course of a dental career, which can impact upon career decisions. There has been very little research carried out that considers how aspirations change over a dental career.

2.5.4 Career Intentions of Specialty Training Registrars

A cross-sectional postal survey investigating the future career aspirations of UK dental StRs found that 75% planned to work in the NHS, combined with an element of private practice. Only 20% of respondents wished to work solely in the NHS. No gender differences were identified on respondent's future loyalty to the NHS. When considering future career aspirations, female respondents were more likely to be influenced by employment benefits, such as maternity, sick pay and annual leave, whereas male respondents were more likely to be influenced by autonomy. The study revealed that male StRs are significantly more willing than female StRs to move locations for a job following completion of specialty training. Despite this, all StRs expressed a preference to stay located in the region of their current training post (Drugan *et al*., 2004). Considering the national recruitment model of recruitment and the necessity to be flexible with regards to relocating for a post, these studies provide a possible explanation into why the orthodontic pipeline leaks at ST4. As people become more settled, the desire to move for a training post becomes more unattractive.

2.5.5 Work Patterns of Orthodontists

Increasing female representation in orthodontics has led to research on the gendered work patterns of orthodontists with the aim of carrying out informed workforce planning. Studies have demonstrated that women and men have significantly different working patterns and when in family units, orthodontists demonstrate gendered working stereotypes. Female orthodontists typically work less than male orthodontists and this theme continues throughout their working lives (Collins *et al*., 2009). In a US study on orthodontic work patterns, 89% of female orthodontists had a spouse that worked full time, whereas 18% of male orthodontists had a spouse that worked full time (Blasius and Pae, 2005). Male

orthodontists usually demonstrate linear working trajectories, whereas female orthodontists working patterns fluctuate over a career. Fluctuations in working patterns are explained by career breaks. Female orthodontists are more likely to take career breaks than men and this is related to maternity leave (Collins *et al*., 2009). When male orthodontists take career breaks is it often a result of illness or a desire to travel (Blasius and Pae, 2005; Collins *et al*., 2009). The arrival of children affects orthodontists, but in different ways according to gender. Male orthodontists generally end up working more hours and female orthodontists working less (Collins *et al*., 2009). In a qualitative study on the work-life balance of orthodontists, female participants reported a desirable aspect of an orthodontic career was the flexibility to return to work part time after maternity leave (Bateman *et al*., 2016). It is evident from these studies that female orthodontists relinquish an element of their careers to undertake family responsibilities and achieve a work-life balance. It is well established that in the UK men do not equally contribute to the share of domestic duties, including child and elderly care (ONS, 2016; McMunn *et al*., 2020). As a result of historical gendered stereotyping women are at risk of forgoing opportunities that could aid career development to be more present within the home. The burden of these unpaid duties on women is largely undervalued and unrecognised and this can contribute to a lack of female progress in economic equality (British Council, 2016; Shannon *et al*., 2019).

2.5.6 Work-life Balance and Orthodontics

Achieving a work-life balance and job satisfaction are desirable features of a career. Work-life balance refers to the sense of balance that is achieved between personal and professional roles, whereas career satisfaction refers to the fulfilment and enjoyment from a career. High levels of job satisfaction are reported among orthodontists, with more than 80% indicating they would choose orthodontics again as a career (Al-Junaid *et al*., 2017). In a qualitative study of UK specialist orthodontists, several themes relating to work-life balance were reported. The working environment, *i.e*. primary or secondary care, had the potential to have positive and negative impacts on work-life balance. Orthodontic treatment in primary care offered greater autonomy than in secondary care. However, the secondary care setting provided an interesting, rewarding, and supportive environment. The orthodontic salary had a positive influence of work-life balance and provided orthodontists with an opportunity to pursue other interests outside of dentistry. Extra commitments in

the hospital setting such as teaching and training boosted career satisfaction, but negatively impacted on work-life balance. The participants in this study felt that achieving a work-life balance was not immediately an element of an orthodontic career. Instead, effort had to be put in to ensure this. If an orthodontist was unable to achieve a work-life balance, participants reported detrimental effects on personal lives (Bateman *et al.*, 2016). It has been demonstrated that achieving a work-life balance is an important consideration for the emerging workforce (Gallagher *et al*., 2007; Gallagher *et al*., 2008; Gallagher *et al*., 2009; Redmond, 2017). Therefore, perceptions of an orthodontic career with respect to work-life balance can impact upon recruitment and retention.

2.5.7 The Role of Mentors in Orthodontics

Mentoring refers to the guidance given by an experienced and knowledgeable individual to a less experienced, often younger, person to aid educational, professional and clinical development (Taherian and Shekarchian, 2008). Mentoring has been documented as being beneficial at each stage of a dental career, by helping trainees identify career opportunities, evaluate professional relationships, and acquire clinical and managerial skills. Through the mentor's own personal experiences, mentees desired outcomes can be reached more efficiently (Arkutu and Rock, 2006). There are very few studies on mentoring relationships within orthodontics and is an area for further research. A recently published qualitative study investigating the perceptions of mentoring in orthodontics, identified that Consultants enjoy mentoring senior StRs. Reported positive experiences of being a mentor were related to, the enjoyment of witnessing trainee's progression and the satisfaction of receiving feedback from StRs. Increasing demands within the secondary care setting had a negative impact on time available to mentor StRs. However, the Consultants felt that senior StRs did not necessarily need to have orthodontic Consultants as their mentors. Mentors could be from outside of the specialty, as mentee issues are often non-specific to orthodontics. This was viewed as a way of alleviating some of the burden on the current workload of Consultants (Parvizi *et al*., 2020). A limitation of the study is the small participant group. As Consultants were the only participants of the study, no insight is gained into how StRs perceive mentoring in orthodontics. It has been anecdotally reported that the decision to proceed with senior StR training is influenced by mentors (Arkutu and Rock, 2006). Depending on the mentor and the opinions held, this may act as a barrier or facilitator to

career progression. To date, no research has been carried investigating the impact mentoring has on StRs and the decision to proceed with senior StR training.

2.5.8 Mentors in Clinical Academia

Research into the perceptions of clinical academic careers, has identified access to a mentor as being beneficial to career development and progression. For undergraduate dental students, mentors have an influential role in recruitment to clinical academia. For more experienced dental academics, mentors are in a position to help develop skills in managing workload (Trotman *et al*., 2002). A lack of same sex mentoring relationships has been identified as a barrier to career progression in medicine and medical academia. These mentoring relationships are important for women to progress along the career pipeline and allow them to break through the glass ceiling (Arkutu and Rock, 2006). Female mentors can often relate to female mentees and offer suggestions based on their own personal experiences on how to balance work and family life. A lack of women in senior positions of clinical academia, means opportunities for same sex mentoring are reduced, which can impact on the movement of women through the clinical academic pipeline (Zhuge *et al*., 2011). A systematic review published in 2010 on mentoring in academic medicine, found that male mentors were not always in the most suitable position to provide guidance on matters such as organising maternity leave. There was an appreciation that the experiences of women and men in academia are different and that same sex mentoring is advantageous (Sambunjak *et al*., 2010).

2.6 Literature Review Summary

Female representation in dentistry and more specifically orthodontics, has improved over the last 50 years, such that now, women constitute half of the workforce (Newton *et al*., 2000; Duguid and Drummond, 2002; Puryer *et al*., 2017; GDC, 2020). One explanation of the movement of women into these professions, that were previously overrepresented with men, is the result of number campaigns and initiatives promoting gender equality. However, on further examination of the statistics, there is evidence that when women finally enter these professions, they continue to experience inequalities with horizontal and vertical segregation. Theories suggest that imbalanced gender demographics continue, as a result of patriarchal systems that define career progression and success (Le Feuvre, 2009). It is

possible that these systems do not always suit the needs and demands of women and men in the emerging workforce. Numerical data provides an insight into gender demographics. However, the data can be insufficient in aiding understanding of the social processes that exacerbate gender disparities. There has been very little research in this area and as a result, little is understood about the mechanisms that hinder and support orthodontic career progression.

Chapter 3: Methodology and Materials

3.1 Context of the Literature and the Research Question

Female representation within the dental and orthodontic workforce has increased substantially over recent years (Newton *et al*., 2000; Stewart and Drummond, 2000; Duguid and Drummond, 2002; Puryer *et al*., 2017; GDC, 2020). Data has revealed that more women than men are currently entering an orthodontic career (Little *et al*., 2016). The movement of women into careers which were previously considered masculine, is suggestive of occupational feminisation. It implies that a dental and orthodontic career is fundamentally stable with respect to gender equality (Le Feuvre, 2009). However, there is evidence to suggest that this is not necessarily correct, and perceptions of gender equality are disguised by segregation at horizontal and vertical levels (BOS, c2014b; Dental Schools Council, 2017; Dental Schools Council, 2018; GDC, 2020). Inequalities within orthodontics, manifest themselves in the struggle women collectively experience in breaking through the glass ceiling, which restricts their ability to reach the most esteemed positions. There have been no published studies investigating the effect of gender on the stages of an orthodontic career. To gain an understanding into the quantitative statistics that are reflective of equality in orthodontics, this research investigated the qualitative social practices of women and men in an orthodontic career.

The literature review introduced the concept of a career pipeline. In theory if the pipeline flows, posts should be adequately filled. There is currently a national shortage of NHS Consultants and orthodontic clinical academics (Ireland, 2001; Dental Schools Council, 2018). The shortages indicate that the pipeline is leaking. To date there has been very little research carried out on the factors that might cause the orthodontic pipeline to 'leak'. To gain an understanding into how the pipeline flows, a study was carried out investigating the barriers and facilitators during an orthodontic career.

3.2 Overview of the Study Design

The study was undertaken at Bristol Dental Hospital and Bristol Dental School, Bristol, UK and involved qualitative research methods and principles. Qualitative research methods with an inductive approach, enables the creation of theories by drawing conclusions from

observations and findings. It is particularly pertinent in this study, where there is limited previous literature to test hypotheses. Qualitative research provides researchers with an opportunity to gain an insight into how individuals, or particular social groups, experience and interpret the world. As a result, the researcher can uncover unexpected areas of research which can form new lines of enquiry (Bryman, 2012). Focus group interviews were utilised with dental students, junior StRs, senior StRs, NHS Consultants and clinical academics, to represent groups of people at different stages of the orthodontic pipeline. Focus groups provide groups of people with an opportunity to discuss their collective experiences and views in a relatively unstructured way. It provides a chance for participants to interact with each other and challenge ideas whilst exploring specific topics (Bryman, 2012). This method was employed so that an insight could be gained into the collective experiences of different groups of people at different stages of the orthodontic pipeline. The research was undertaken by the author (JJ) who is currently an StR in orthodontics, with the study contributing to the research component of a Doctorate in Dental Surgery at the University of Bristol, Bristol, UK.

3.3 Ethics Statement

As the study involved focus group interviews, ethical approval was sought and granted by the Faculty of Health Science Research Ethics Committee at the University of Bristol on 17/05/2018 (reference number 66604). The following documents were submitted to accompany the application for ethical approval and the full documents are in Appendices II-V:

1. Consent form
2. Recruitment email sent to:
    a. Fourth year undergraduate dental students
    b. Orthodontic StRs
    c. NHS Consultants and clinical academics
3. Individual topic guides for:
    a. Fourth year undergraduate dental students
    b. Junior orthodontic StRs
    c. Senior orthodontic StRs

    d. NHS Consultants and clinical academics
4. Individual participant information sheets for:
    a. Fourth year undergraduate dental students
    b. Orthodontic StRs
    c. NHS Consultants and clinical academics

3.4 Participants

3.4.1 Sampling and Recruitment

Non-probability purposive sampling was undertaken to select participants at different stages of the orthodontic pipeline. The approach was employed to ensure that those sampled were representative of people along the orthodontic pipeline and relevant to the research question. The selected stages were:

1. Fourth year undergraduate dental students that were interested in pursuing a career in orthodontics.
2. Junior orthodontic StRs
3. Senior orthodontic StRs (ST4-5)
4. NHS Consultants and clinical academics. As clinical academics have appointments with both the University and NHS, often as NHS Consultants, for the purposes of the focus groups, clinical academics were interviewed with the NHS Consultants.

A decision was made to separate the focus groups by gender, to investigate the effect of this on orthodontic career progression. In total, 26 participants were recruited to the study. Of those recruited, two participants were undertaking formal clinical academic training and one was a Professor of Orthodontics. See Table 5 for the number of participants in each of the focus groups separated by gender.

Each of the separate groups were sent a recruitment email, via their University email accounts, inviting them to participate in the study. The email included a copy of the consent form and a participant information sheet. The participant information sheet outlined the purpose of the study and details of the lead researcher (JJ) in case any further information relating to the study was required. Following the email invitation, participants were given time to consider if they wished to take part in the study. A reminder email was sent two

weeks after the initial contact. To increase participation in the undergraduate dental student group, a clinical scheduler (CF) at Bristol Dental School was contacted, to find a time that was convenient for the dental students to participate in the study. In the recruitment email, the dental students were also offered an incentive of refreshments if they attended the focus group. Once participants from each of the groups expressed their interest in participating in the study, the individual groups were sent a suggested date, time and location of the focus group. If this date and time was not convenient another date was found.

Participation in the focus groups was voluntary and participants were informed that if at any time they wished to withdraw from the study, they could do so with no adverse consequences. Written informed consented was gained prior to participating in the study.

Stage of orthodontic career	Females	Males	Total
Fourth year undergraduate dental students	3	2	5
Junior orthodontic StRs	6 (incl. 1 academic StR)	3	9
Senior orthodontic StRs	3 (incl. 1 academic StR)	3	6
NHS Consultants and clinical academics	3	3 (incl. 1 Professor)	6
Total	15	11	26

Table 5: The number of participants in each of the focus groups separated by gender.

3.5 Procedure

3.5.1 Materials List

- Windows 10 Laptop (Microsoft, Redmond, Washington, USA)
- Olympus LS-7 Linear PCM Voice Recorder (Olympus, Tokyo, Japan)
- Microsoft Word 2016 (Microsoft, Redmond, Washington, USA)
- Microsoft Outlook 2016 (Microsoft, Redmond, Washington, USA)

3.5.2 Topic Guides

Four topic guides were designed in preparation of the focus groups, one for each of the different stages of an orthodontic career. Several stages were involved in the formulation of the topic guides:

1. Reviewing literature
2. Determining research question
3. Deciding topic areas relevant to research question
4. Devising specific questions to answer the research question
5. Revising questions against literature
6. Checking agreement of questions with research supervisors

Both genders received the same topic guide specific to their career stage to reduce bias. The topic guides were used as a method of standardising data collection by keeping the interviews structured, focused and concise. However, participants were able to discuss freely their own experiences and views in relation to topics. See Table 6 for the headings used in each of the topic guides. The topic guides can be viewed in full in Appendix IV. Prior to submission of ethical approval, topic guides were checked by the co-supervisors of the project, PN and AJI.

Undergraduate dental students	Junior Specialty Training Registrars
1. Motivations to choosing orthodontics as a career 2. Orthodontic career options 3. Barriers affecting a career in orthodontics	1. Motivations to choosing orthodontics as a career 2. Orthodontic career options 3. Barriers affecting a career in orthodontics 4. Facilitators affecting a career in orthodontics
Senior Specialty Training Registrars	**NHS Consultants and clinical academics**
1. Motivations to choosing senior orthodontic registrar training? 2. Orthodontic career options 3. Barriers affecting a career in orthodontics 4. Facilitators affecting a career in orthodontics	1. Motivations to become an Orthodontic Consultant? 2. Orthodontic career options 3. Barriers affecting a career in orthodontics 4. Facilitators affecting a career in orthodontics

Table 6: Topic guide headings.

3.5.3 Participant Information Sheets

All participants were provided with a Participant Information Sheet (PIS), initially as a digital copy sent via an attachment to the recruitment email and as a hard copy prior to the focus groups. The aim of the PIS was to provide those considering taking part in the study with the necessary and relevant information to make an informed decision on participation.

Three different PIS were produced to ensure the information provided was relevant to each respective group. The following PIS can be viewed in Appendix V:

1. Fourth year undergraduate dental students
2. Orthodontic StRs
3. NHS Orthodontic Consultants and clinical academics

The PISs had the following headings:

- Invitation to the study
- What is the purpose of the study?
- Why have I been invited?
- Do I have to take part?
- What will happen to me if I take part and what will I have to do?
- What are the possible disadvantages and risks of taking part?
- What are the possible benefits of taking part? *
- What will happen if I don't want to carry on with the study?
- Will my taking part in this study by kept confidential?
- What will happen to the results of the research study?
- Who is organising and funding the research?
- Who has reviewed the study?
- Further information and contact details.

*This heading was only present on the dental student's participant information sheet.

3.5.4 Consent form

If participants were willing to participate in the study after reading the PIS, they were asked to sign a consent form prior to commencing focus groups. All participants received the same consent form (Appendix II).

3.5.5 Data Collection

The focus groups were facilitated by the lead researcher. PN, an experienced qualitative researcher and co-supervisor of the study acted as note taker and was present at all the focus groups, except for the male senior orthodontic StRs due to unavailability. In total eight face-to-face focus group interviews were conducted over a five-month period (June-November 2018).

At the start of each focus group, the lead researcher introduced herself and PN to the group, described the purpose of the study and how the focus group would run. Participants were offered refreshments during the focus groups, which had been organised by the lead

researcher. Participants were reminded that participation was voluntary, and comments made to the researchers would remain confidential. To maintain confidentiality, data was recorded using an encrypted audio recorder, the Olympus LS-7 Linear PCM Voice Recorder (Olympus, Tokyo, Japan). Due to the nature of focus groups, participants were informed of group etiquette *e.g*. respecting other participants opinions within the group, allowing space to speak and maintaining confidentiality outside of the focus groups. Following the introduction, participants were provided with a hard copy of the PIS and consent form. Participants were asked to read the PIS if they had not already done so and to read and sign the consent form. An opportunity was provided for the participants to ask any further questions and when ready, the focus group session commenced. No time limit was set for the focus groups, to allow the session to come to a natural end. The sessions ranged from 28-49 minutes. See Table 7 for a breakdown of the time for each focus group. At the end of the focus group, participants were given an opportunity to add any further comments and were thanked for their time and contributions to the research project.

Focus group	**Length of focus group**
Female undergraduate dental students	34 minutes
Male undergraduate dental students	28 minutes
Female junior StRs	29 minutes
Male junior StRs	45 minutes
Female senior StRs	49 minutes
Male senior StRs	42 minutes
Female NHS Consultants	41 minutes
Male NHS Consultants and academics	42 minutes

Table 7: Length of each focus groups in minutes.

3.5.6 Transcription of the Data

The focus groups were transcribed verbatim onto Microsoft Word 2016 (Microsoft, Redmond, Washington, USA) by the lead researcher in preparation for analysis. All data were anonymised prior to analysis and each participant was given an individual participant identification number.

3.5.7 Analysis of the Transcripts

Once all the transcripts had been transcribed, an inductive thematic analysis approach was used to analyse the data. Inductive thematic analysis is a method for analysing qualitative data. The aim is to classify key features of the data so that interpretations can be made. Inductive thematic analysis involves the creation of codes and themes. Codes are the primary components of analysis and represent features of the data that are relevant to the research question. Collections of codes create a theme. Themes are the secondary components of analysis and represent patterns and meaning within the data. An inductive thematic analysis approach was utilised, due to the ability to analyse large data sets which often results from qualitative data. The analysis technique enables researchers to generate theories from participants experiences and views, which was an advantageous method of analysing the data (Clarke and Braun, 2017).

The inductive thematic analysis was undertaken in six stages (Braun and Clarke, 2006). Initially the transcripts were individually read and re-read by JJ and PN, to enable familiarisation with the data. The transcripts were independently coded to reduce single researcher bias. Each focus group was coded in turn, generating primary codes and themes. Once the initial coding had taken place, JJ and PN met to discuss the individual codes and to reach a consensus on final code words and themes. It is perhaps worth noting here that when carrying out the inductive thematic analysis, motivations and facilitators were identified as two separate themes. Motivations were coded as the reasons behind why someone would want to pursue a career in orthodontics, and facilitators as the factors had specifically aided that decision. In a quality review process, themes were checked against primary codes and the data set. Following this, data was entered by JJ onto a framework matrix table on Microsoft Word 2016 (Microsoft, Redmond, Washington, USA), with inserted quotations from the transcriptions. This final framework matrix was checked by PN and are available in Appendix VI. Table 8 outlines the stages of the inductive thematic analysis.

Stage	Task
1. Data familiarisation	• Transcription of data • Independently reading and re-reading transcriptions
2. Coding	• Initially independently coding by identifying elements of data that were interesting • Reviewing code words between researchers
3. Theme generation	• Reviewing code words and making associations to form overarching themes
4. Theme evaluation	• Reviewing themes against coded data
5. Theme re-evaluation	• Checking themes for clarity
6. Matrix framework production	• Producing a document containing code words, themes and quotes

Table 8: Key stages involved in the inductive thematic analysis (Braun and Clarke, 2006).

Chapter 4: Results

This chapter reports the main research findings from a series of focus groups interviews, which through a gendered lens, investigated the factors that influence a career in orthodontics. Participants were sampled to represent groups of people at different stages of the orthodontic pipeline. The selected career stages were dental students, junior StRs, senior StRs, NHS Consultants and clinical academics. Participants in each career stage were split by gender to investigate the effect this may have on orthodontic career progression. In total 26 participants, participated in eight focus groups interviews which were conducted over a five month period from June-November 2018.

The focus groups are reported by ascending career stage from undergraduate dental students to NHS Consultants and clinical academics. By reporting the results in this way, the effect that differing lengths of time in the orthodontic pipeline has on an orthodontic career is demonstrated. For each career stage, the results for both genders are reported. The approach should allow for comparisons to be made between the different experiences of women and men at each stage of an orthodontic career. For each focus group, the results are structured around overarching themes and the corresponding primary codes identified in the inductive thematic analysis. Data specific to the primary codes are reported with direct quotes from participants. Quotes are shown in inverted commas, followed by the participant's individual identifiable code in brackets. The final matrix framework and transcripts are available in Appendix VI and VII respectively.

4.1 Focus Groups 1 and 2: Female and Male Fourth Year Undergraduate Dental Students

Two focus groups were held for the fourth year undergraduate dental students, which included three female and two male participants. Four main themes emerged from the focus groups:

1. Motivations to choosing orthodontics as a career
2. Facilitators to choosing orthodontics as a career (female dental students)/ Advantages of being an orthodontist (male dental students)
3. Perceived barriers affecting a career in orthodontics
4. Career options

4.1.1 Motivations to Choosing Orthodontics as a Career

After establishing that the dental students were interested in pursuing a career in orthodontics, they were asked the reasons behind this decision. The individual motivations as primary codes are reported below.

- **Previous orthodontic experience**

Previous orthodontic experience, either as a patient or as an undergraduate, were motivating factors to pursing an orthodontic career for all of the dental students.

"I also had it [orthodontic treatment] myself and the whole experience was amazing, the difference from before and after, so it would be really nice to provide that for patients." (DSF1)

"[…] we have clinics every two weeks, where we get to do hands on things and have tutorials and teaching about it. That's definitely influenced that." (DSM2)

One male dental student considered how an absence of undergraduate orthodontic experiences could be a potential barrier for someone considering an orthodontic career.

"In a lot of other dental schools, they don't have any training in orthodontics at all, so it might be something they haven't considered doing." (DSM2)

- **Patient factors**

NHS orthodontic treatment usually involves treating patients that are under 18 years of age, and only the female dental students commented on this patient demographic.

"The patient genre is younger; this really attracts me." (DSF1)

The dental students recognised a patient demand for orthodontic treatment. They perceived this would lead to increased levels of patient cooperation and as a result, a high degree of personal satisfaction.

"People come to see you because they want to see you, they don't come because they have to come, they come because they get a benefit out of it." (DSM1)

"A lot of people associate dentistry with orthodontics […] people want their teeth straight and appearance is a huge thing. I think it would be nice to contribute towards that." (DSF1)

- **Physics and its association with orthodontics**

The dental students often associated physics with orthodontics. The enjoyment of learning physics was linked with understanding orthodontics and this was particularly motivating for one of the female dental students.

"[…] one of my favourite subjects was physics, so I got to dentistry and was like I really understand the principles of orthodontics and I really do get the forces […] if I understand something, I enjoy doing it and orthodontics clicks." (DSF2)

- **Aspects of providing orthodontic treatment**

There were elements of an orthodontic career that the dental students found particularly motivating, namely, treatment planning cases, understanding treatment mechanics and the length of patient treatment.

"It is good seeing the change happen over a period of time, instead of a denture where it happens instantly." (DSM2)

"I also think it is a lot to do with planning. I would really like to plan cases properly, like fully understand what I'm doing." (DSF1)

The dental students felt that providing orthodontic treatment would offer a rewarding and satisfying career.

"I think it would be really rewarding because you do get those patients that are at that age when they are so self-conscious […]. I didn't really smile really until I got my braces off." (DSF2)

"I like making people feel good about themselves and happy […] so for me it fits that point." (DSM1)

- **Work-life balance**

The female dental students felt that a career in orthodontics would enable them flexibility and the ability to achieve a good work-life balance. This was particularly a motivation if they were considering having a family in the future.

"One thing I didn't say because I forgot, was the lifestyle in orthodontics especially like a woman that is going to be bringing up a family, orthodontics seems like a nice nine-six […]" (DSF2)

"The specialty itself is quite flexible […]. You could work full time as an orthodontist. If you didn't like the full-time element you could go part time." (DSF1)

The male dental students did not identify the flexibility within orthodontics or the ability to achieve a work-life balance as a motivating factor to pursuing this as a career option.

- **Mentors**

The dental students discussed the positive role, mentors had had on their decision to pursue orthodontics as a career. These mentors happened to be of the same sex to the mentees. The female dental students discussed aspirational features of their role models; flexibility, team members, work-life balance, working hours.

"My orthodontist was a woman in a practice, with all woman orthodontists and like yeah, I think I wanted her life, like I looked at her and thought she had a desirable life." (DSF2)

"My personal tutor is one of the Professors. […] I wasn't sure what I wanted to specialise in but then we chatted a bit and talked about things and I thought this seems a lot better, this is the one I want to do." (DSM1)

- **Financial remuneration**

Finances was seldom discussed by the dental students, except for one of the male dental students. This dental student explained how the salary he had associated with orthodontics was one of the motivating factors to pursing the career option.

"I don't mean to be blunt; the pay also is a big, big point that makes you want to do ortho." (DSM1)

"Financially it is a bit more beneficial to specialise in something." (DSM1)

Although it seemed that this dental student was concerned with finances, he discussed how any finances associated with specialising, such as university fees would not be a barrier.

"I mean I expected there to be high fees when you went to specialise in dentistry anyway. So, I don't see that as a barrier." (DSM1)

4.1.2 Facilitators to Choosing Orthodontics as a Career

The female dental students identified facilitators that were helpful when deciding whether to pursue a career in orthodontics. This was not a theme identified for the male dental students.

- **Comparison between the specialities**

One of the female dental students reported that when the time came to decide her future career options, she would want to compare all the dental specialities on their perceived advantages and disadvantages.

"I think I would want to compare all the specialities that I'm interested in and then compare where they are location wise, how competitive they are, earnings wise." (DSF1)

- **Mentors**

The female dental students discussed how senior colleagues were often mentors and a point of contact to discuss future career options. Discussions with experiences of senior colleagues were a facilitator for the female dental students to deciding future career options.

"I had a few friends that are older than me that were doing it […] Whenever someone speaks to you about what you do, they always ask, "what do you want to do after?" and that makes you think about it." (DSF2)

4.1.3 Advantages of Being an Orthodontist

The male dental students reported on what they considered to be the merits of specialising in any area of dentistry. The advantages were focused on career stability, career security and additional career opportunities. These perceived advantages of an orthodontic career were not discussed by the female dental students.

Career stability and security

The male dental students discussed their concerns about working as General Dental Practitioners (GDP) and that specialising would offer career stability and security.

"It seems to be a much more stable as a career [specialising]. From what I've been told, being a GDP, generally is going to become harder and more options for employing technicians that are cheaper […]" (DSM1)

"We're being told that you have to specialise in order to be successful." (DSM2)

"Prof E said in his lecture […] that a therapist can do 70% of what a dentist can do, so why do they need so many dentists. […] it is better to specialise in order to keep a job." (DSM2)

- **Career opportunities**

The male dental students linked specialising with increased career opportunities.

"If you specialise in something you become more desirable, so you can keep your job and it opens doors for you, owning a business and things like that." (DSM1)

4.1.4 Perceived Barriers Affecting a Career in Orthodontics

- **Length and nature of orthodontic training**

The dental students were aware that the orthodontic training pathway involved an additional three year period of postgraduate training. The additional time in training was a reported barrier for the female dental students.

"I think it's probably the thought that it is going to take another three years to specialise […] so that could potentially be a barrier." (DSF1)

The additional period of training was not considered a barrier for the male dental students due to StR salary.

"[…] if you are working at the same time as training, it is not as big a deal then doing university again for three years." (DSM2)

However, specialising in a career such as oral and maxillofacial surgery (OMFS), which requires undertaking an additional full time undergraduate medical degree unsalaried, was a barrier.

"It's not like maxfac surgery where you have to do a whole other degree. That's a full-time degree so that would be more of a barrier for that." (DSM2).

- **Location of training posts**

The female dental students discussed how the need to relocate for a specialty training post could be a potential barrier for them if they had families in to consider.

"If you want to start a family and then moving around, it's stressful." (DSF3)

"That would worry me then, location wise. I wouldn't like being really far away from where I had already settled." (DSF1)

The relocation process did not appear to be a barrier for the male dental students.

"I don't really mind where I live to be honest." (DSM2)

"The distance doesn't really bother me, I think wherever I end up, if I like it there, I'll probably stay there." (DSM1)

Despite the potential barriers associated with the length and location of StR training posts, the undergraduate dental students generally felt confident in their ability to gain entry onto an orthodontic training programme which they knew was highly competitive.

"I would just say that even though it's so competitive that wouldn't put me off, I would like that challenge." (DSF2)

"Well, they said this was one of the most competitive courses in the country to get into and considering the number of applicants and the grades and the number of spaces, we got through this. I like the challenge." (DSM1)

- **Personal circumstances**

One of the female dental students discussed how personal circumstances at the time of applying for orthodontic specialty training could be a barrier for her applying. This was not identified as a barrier by the male dental students.

"Orthodontics is very full on and it will depend on where I am in my life, as in if I do get married, will that play a part? Or if I have children in the future would that make it more difficult to then go into orthodontics? So that could potentially be a barrier" (DSF1)

4.1.5 Career Options

- **Primary and secondary care**

The dental students were asked where they would they like to work long-term if they were accepted onto an orthodontic specialty training programme. The female dental students discussed how they would like to split their working week between primary and secondary care.

"I think I would like to become a Consultant. I don't know why I think this is a possibility, but I would like to do orthodontics two to three days a week and general practice two days a week." (DSF2)

This female dental student went onto explain why she felt working within secondary care was attractive.

"I like the way there is loads of other Consultants that you can talk to and compare things and also in hospitals you see cases that are a massive challenge." (DSF2).

The male dental students both reported a preference for a career in primary care, specifically with the desire to owning a dental practice.

"I think that's where we both want to end up, owning our own practice. So, working in general practice, you get the experience of being able to do it all yourself or you can set it up yourself." (DSM1)

- **Academia as a career option**

The dental students were asked whether they had considered orthodontic academia as a career option. This career option was discussed in relation to teaching rather than research.

"I would really like to teach. I've come from a family; my Dad's Mum was a teacher and it was always this blood in the family." (DSM1)

"Yeah, you'd be keeping up to date." (DSF2)

However, one male dental student reported why he would not consider an academic training pathway.

"I think I would like to go out into the world, rather than carry on training, I think I would have had enough by then." (DSM2)

4.2 Focus Groups 3 and 4: Female and Male Junior Orthodontic Specialty Training Registrars

Two focus groups were held for the junior StRs which included six female and three male participants. One of the female junior StRs was undertaking formal academic training. Five main themes emerged from the focus groups:

1. Motivations to choosing orthodontics as a career
2. Facilitators to choosing orthodontics as a career and to career progression
3. Advantages of being an orthodontist
4. Perceived barriers affecting a career in orthodontics
5. Career options

4.2.1 Motivations to Choosing Orthodontics as a Career

The junior StRs were asked the reasons behind their decision to pursue a career in orthodontics.

- **Previous orthodontic experience**

Previous clinical and personal experiences of orthodontic treatment were given as motivating factors to pursuing a career in orthodontics.

"So, I did work experience and I think getting an insight into what the job was like definitely motivated me to pursue this." (JRF1)

"[…] I went through ortho twice, then you sort of know what it is about a bit more." (JRF3)

"I did a GPT placement and an ortho job and I quite enjoyed it and thought I quite fancied doing a lot more of this." (JRM3)

One of the male junior StRs explained how his lack of undergraduate orthodontic experience was a motivating factor to pursuing orthodontics as a career.

"I'd never done ortho in university. […] when I came out of university it was a fresh slate to try ortho." (JRM3)

- **Patient factors**

One female and two male junior StRs explained how providing treatment on orthodontic patients gave a high level of personal satisfaction. These responses were in relation to the age of the patient group and patient motivation for orthodontic treatment.

"You are also treating, usually a population group that want treatment, they are motivated for treatment. So, treating children I think you are kind of reaching people before they reach their adulthood and get bad habits." (JRF3)

"Working with motivated patients that actually want to be there, rather than have to be there. It makes a big difference to the working day. Our patients are generally happy to be there, grateful at the end. I think they are happier than the average dental patient." (JRM2)

- **Physics, mathematics, engineering and its association with orthodontics**

The junior StRs linked orthodontics with physics, mathematics and engineering. For some the enjoyment of these subjects were motivations to pursing orthodontics as a career.

"I chose orthodontics because I really enjoy the physics and the maths behind tooth movements." (JRF1)

"I liked the idea of working with the age group 8-18 and the idea of combining dentistry with physics and engineering." (JRM1)

- **Aspects of providing orthodontic treatment**

There were aspects of providing orthodontic treatment that the female junior StRs found attractive, particularly the lack of invasive intraoral procedures and due to the length of orthodontic treatment, the relationship that can be forged with patients.

"It's clean, there is no blood, no injections, not as much pain and it is good to have a relationship with the patient throughout the whole two or three years. You get to see a result afterwards which is nice." (JRF2)

In contrast to the positive aspects of orthodontic treatment, one of the female junior StRs felt that the length of orthodontic treatment was a disadvantage to her as a female considering having children in the future, due to the negatively impact on patient care.

"I actually think it is harder, like if I am planning to have kids later on, because my patients have to come back to see me every month and that means there will be delays for them. […] In orthodontics it is kind of hard to finish the patient quickly, so someone will take over or you will be delayed for your patient." (JRF6)

- **Preference over general dental practice**

Only the female junior StRs discussed how previous experiences of working within general dental practice had motivated them towards specialising. They discussed how orthodontics offered career flexibility and variety which was not present in general dental practice.

"I also didn't like working in practice, so for me it was an opportunity to work in a hospital environment, but not do the maxfac and on-call, so as a job that has loads of variety it definitely had that for me." (JRF3)

"I need variety […] I feel that is something I didn't like about general dentistry, you can feel isolated and you can feel that you are in one room all the time, 24/7." (JRF1)

- **Career longevity**

One of the male junior StRs discussed how he felt a career in orthodontics had more longevity than other dental specialities.

"I wanted a career that I felt that I could carry on into old age if I wanted to and I felt that orthodontics would provide that." (JRM1)

- **Absence of on-call shifts**

As described in the literature review, DCT is a prerequisite to specialising in any of the dental specialities. A DCT post will often include a placement working within OMFS, which usually has an on-call commitment. Both groups reported the absence of on-call shifts within orthodontics as a motivating factor to pursuing an orthodontic career.

"Orthodontics offers job stability and no on-calls." (JRF5)

"I'm glad I picked this, no on-calls." (JRM3)

- **Transferable skills**

One of the male junior StRs commented on how an orthodontic career can increase career options including opportunities to work abroad.

"I think there's also options to go abroad if you're an orthodontist. Australia has got doors wide open for us and I wouldn't mind a couple of years abroad getting some sunshine and then coming back." (JRM3)

- **Perception of orthodontists**

Both the female and male junior StRs described how the perception of orthodontists and the work-life balance were motivating factors in choosing orthodontics as a career.

"Quite a lot of the Orthodontic Consultants seem nice and quite balanced, friendly people who seem to have a quite nice work-life balance." (JRF4)

"I don't think you ever meet an orthodontist that regrets their decision to do it or is miserable, everyone seems quite happy." (JRM2)

- **Mentors**

For the junior StRs, opposite sex mentors played a role in the decision to pursue orthodontics as a career.

"I had an idol, so before I got into dentistry, I used to look up at him and then I got into dentistry in order to get into orthodontics." (JRF6)

"In my VT practice there was a specialty orthodontist and […] she always said she hated being a dentist and that orthodontics was the best thing she had ever done. That sort of pushed me to look into it a bit more." (JRM2)

- **Financial remuneration**

The junior StRs discussed how the financial incentive of an orthodontic salary was a motivating factor in pursuing orthodontics as a career. The junior StRs discussed how they felt a career in orthodontics would eventually offer a higher salary compared to a GDP and that this financial remuneration was a motivating factor to undertaking specialty training. They went on to explained that if the financial incentive was not present, they would be less motivated to a career in orthodontics and perhaps as a result wouldn't have even consider undertaking specialty training in the first instance.

"When you're actually doing all of this work, it is nice to know that there is light at the end of the tunnel if there wasn't one, I think I would be less motivated." (JRM3)

"I think the monetary aspect of it, is also probably a factor. […] I don't know that I would have necessarily pursued the career if I didn't think I would have some financial benefit from doing extra study." (JRF1)

"I know that for the first part of training you are investing with time and lower wages knowing that in the future the wages are generally better than the average dentist, so that has some impact, I would have probably struggled to choose it if the pay was less than the average dentist." (JRM2)

4.2.2 Facilitators Related to Choosing Orthodontics as a Career and for Career Progression

Three primary codes were identified as facilitators for both female and male junior StRs.

- **Comparison between the specialities**

The junior StRs explained how they had compared aspects of the different dental specialties before deciding to pursue a career in orthodontics.

"For me, the decision came over lots of years actually. It's almost been a process of elimination" (JRF4).

The male junior StRs often compared orthodontics with OMFS.

"Having worked in a maxfacs job the hours can be substantially more […] I think you don't spend a lot of time with your family as well because you're in and out, or asleep at times when people are socially awake, so I think this is a nicer option in comparison to that." (JRGB3)

For the female junior StRs the process of comparing specialties often started prior to dental school.

"I am a woman and I know I am going to have kids […] I think the flexibility of it would be really good. However, I do think you can get that in the dental profession anyway and that was my initial driver to study dentistry over medicine, so I had thought about it at that point." (JRF1).

- **Mentors**

The junior StRs explained how orthodontic specialists and NHS Consultants were facilitators to and during an orthodontic career.

"I think definitely something that I've seen is orthodontists, like Consultants are really willing to help." (JRF1)

"I think it was in second year when I saw some of the practice-based specialists and I used those opportunities to learn as much as I could about ortho and practice. I thought they were really useful in helping my decision." (JRM1)

- **Support**

Support was identified as key facilitator to pursuing a career in orthodontics. However, the type of support differed between the male and female StRs. For the female junior StR group, the greatest support was from family (parental), senior colleagues and peers.

"I guess I am very fortunate in the fact that I get a lot of support from my parents." (JRF3)

"If a Consultant knew you had decided to try going for orthodontics and they were an Orthodontic Consultant and knew it was really good for you and encouraged you and helped you, I think that would spur you on." (JRF4)

"I think peer support is really important as well, so not just your mentors or Consultants." (JRF1)

Support for the male junior StRs came primarily from partners.

"It's also having a supportive partner at home, I have a wife, she's moved, and she's had to quit her job in general practice every time I get a new job […] having someone at home who can support financially as well as move is very beneficial for me." (JRM2)

4.2.3 Advantages of Being an Orthodontist

The junior StRs discussed what they perceived to be the advantages of an orthodontic career.

- **Career variety and flexibility**

The junior StRs all felt that being able to split the working week between primary and secondary care was an advantage of an orthodontic career.

"It is the thought that you could do, like most of the Consultants here, will do a private day […] and to know that, that opportunity is there so that you can work in the hospital, you can do a bit of private work." (JRF3)

"It's actually geared into a split week as well which is pleasant so if you did ever want to do Consultant training you could do a couple of days in the hospital and a few days outside." (JRM3)

The female junior StRs also discussed the flexible working hours as an advantage.

"I think the nine-five aspect, which I know it probably going to change, but the nine-five aspect is really good and the fact that you can be flexible." (JRF1)

- **Salary**

The salary that junior StRs has associated with orthodontics was viewed as an advantage. The female junior StRs related the orthodontic salary to increased security in the future.

"I suppose it is all about the long term [salary], it's about looking ahead, you've got to." (JRF4)

"I definitely think with these three years it's about the long term and you're doing this to hopefully benefit yourself in the future." (JRF1)

However, the male junior StR's viewed the higher salary as a way of improving their work-life balance and reducing their working hours to pursue other interests.

"For me it's not about being rich or earning really well, it's about being able to choose, like I can have a bit more flexibility and freedom if I earn well. You get more control over your work and probably choose to work less." (JRM2)

"[…]and to potentially try other things with your time rather than just being stuck doing the same thing your whole life, to experience more things whether that be job wise or hobby wise." (JRM1)

4.2.4 Perceived Barriers Affecting a Career in Orthodontics

In the focus group the junior StRs were asked to consider what they perceived to be the barriers to and throughout a career in orthodontics.

- **Intensity of training**

The junior StRs agreed that junior StR training was intense, and this was a barrier to pursuing post CCST training.

"I think it is very intense training [junior StR training]. You can't deny that there is a lot of work that impedes on evenings and weekends and that is a barrier." (JRF4)

"And then after that it's all probably fatigue, it's all quite intense after MOrth and the DDS. So, I think by then a lot of people have probably had enough." (JRM2)

- **Personal sacrifices associated with undertaking specialty training**

The junior StRs felt that by undertaking specialty training, personal sacrifices occurred.

"You might not be earning as much as you would be if you were in general practice, yeah buying a house, paying for a wedding, those things are affected yeah." (JRF3)

"I think it does add significant difficulties in terms of getting a mortgage as well. I'll be mid-30s, it just slows everything down in terms of progressing with life." (JRM1)

- **Family considerations**

For both the female and male junior StRs, family considerations were a barrier for career progression. However, there were differences amongst the female and male junior StRs. For the females the barrier was related to the impact starting a family had on training. It worth noting here that that participants often refer to post CCST training as FTTA, which is the historical term for post CCST training.

"For me in terms of the family planning, if I think about my life, it is adding on those three extra years of your life, […] I don't know that I would get married during this or whatever, so in terms of family planning everything is later." (JRF1)

"Yeah, I think certainly these three years. If you were going to do FTTA, then for me yes that would be eating into am I going to have a baby now? Yeah so that may come up later as a barrier to doing FTTA." (JRF3)

In contrast to this, the male junior StRs openly discussed the ease of starting a family whilst in training.

"Also, being male I think you have a bit more flexibility, we're lucky in that respect. Like you could have a baby whilst you are here and come back to work quite quickly, it just generally makes life a bit easier." (JRM2)

The female junior StRs expanded on their thoughts of specialty training and the ability to have a family.

"[…] they need to think about people who do want to have children and making the course work around them. I don't think it is up to date with the modern era. It is not up to date, it hasn't moved forward, in terms of allowing you to have maternity leave." (JRF3)

"Yeah, I mean I feel that I am fitting into a system and I am happy to do that, but I don't know how I would feel if it was my first baby, I think I would feel quite different." (JRF4)

The male junior StRs described how family consideration such as the readiness for partners to relocate for training posts was a barrier for entering orthodontic specialty training. The male junior StRs described how difficult it would have been if partners were unwilling to relocate for a training post.

"I would say, that is my biggest barrier, if my wife hadn't been interested in moving or had said she wouldn't move or then made it feel difficult then I may have not followed the route or followed it and then felt guilty and unmotivated."(JRM1)

This was also a potential barrier for pursing post CCST training.

"I think at that point it's mean to make your partner move half way across the country for something which maybe you don't really have to do anymore." (JRM3)

"[…] It's partly down to a family consideration, I have a wife and she's supported me through all of this when do I stop putting her through the mill?" (JRM2)

- **National recruitment process**

One of the male junior StRs felt that the biggest barrier to pursuing a career in orthodontics was competition and lack of success at the junior StR national recruitment interviews.

"[…] I do think it was the risk of not getting a place is the real barrier. […]. So, I think that's the risk and it's playing a game, are you going to get in? How many times do you do it? Like I got in the second time, the first time around when I didn't get a job, I thought how many more times can I try? […] I think once you're here there aren't any barriers after this point." (JRM2)

However, the other junior StRs did not report to have any issues with the interview process.

"I have no issue with the interview process per se, I take issue with being placed anywhere in the country." (JRF3)

- **Location of training posts**

Relocating to an undesired location for a post CCST training post was as a barrier for the female and male junior StRs when considering whether to continue in training.

"I'll tell you what else that is really important is the recruitment process, I won't move now so it has got to be within a driveable area otherwise I won't do it." (JRF4)

"I think geography is a huge factor because once you get to a certain age and you've bought a house and maybe you've got children, you're not going to pick your life up and move again, that's just not what you're going to do." (JRF3)

"Location is probably the one. They are normally in odd places where nobody wants to go." (JRM3)

"I've had enough of moving, I don't want to move again, a massive factor is actually not wanting to move again." (JRM2)

The female junior StRs discussed how they felt recruitment to post CCST training could be improved by offering posts that ran straight through from ST1-ST5.

"Geography. I think they should have more run through posts." (JRF3)

"I think more people would certainly sign up to do the run through posts, so where we are doing a three-year course instead you sign up to do five years right from the beginning so there's no, get to the end of three years, reapply to do another two years, so it's just five years all the way through." (JRF3)

This female junior StRs went onto explain another way she felt the national recruitment process for post CCST could be improved.

"[…] the first three years [ST1-3] then maybe national recruitment and just getting placed is maybe ok because there is so many jobs […] but yeah for FTTA they've got to rethink it. Maybe it would be better to go back to regional for FTTA." (JRF3)

- **Finances associated with orthodontic specialty training**

As described in the literature review, it is an essential requirement that junior orthodontic StRs undertake a university postgraduate degree. One of the female junior StRs reflected on how the tuition fees associated with orthodontic specialty training was a challenge.

"I think if you compare it to other dental specialities, we have the cost of the degree, so it is very difficult with that." (JRF4)

This view regarding tuition fees was not shared by all the female junior StRs. However, the female StRs often compared themselves in a monetary sense to peers that had not chosen to specialise.

"It's not so much a barrier but I'm only aware of it when I see people who I graduated with, who earn more money than I do and go on more holidays." (JRF3)

University fees associated with training were not a barrier for the male junior StRs. However, the senior StR salary, compared to the salary of a specialist orthodontist, was a barrier to pursuing post CCST training.

"Lots of us will be at the age where we would like children and then you're going to inevitably reduce down to nearly one salary. Even if it's just for a bit, it's still like a year of one salary and the FTTA salary whilst it's still pretty good when compared to the national salary. I suppose we've become conditioned within the dental world to think about different pay scales rather than average pay scales." (JRM2)

4.2.5 Career Options

- **Post CCST training**

The junior registrars explained the reasons why they were considering pursuing post CCST training.

"I want to carry on the training if possible, I just feel like I've been in training for so long it would be nice to just get to the top if I can." (JRF4)

"For me, it's also about cementing my knowledge, I like to know that I know all of my stuff, so having two extra years of training for the cementation of knowledge, for me is really important." (JRF1)

"I think in future orthodontics it might be a good way to hedge your bets and do it that way. The uncertainty around NHS orthodontics is something that may influence my decision to do both, so that I can cover my bases." (JRM2)

- **Specialist practice and secondary care**

The junior StRs were asked about their future career plans and there were a combination of responses. It was apparent that most of the junior StRs were undecided on their future career plans. Some of the female and male junior StRs were considering a career as an NHS Consultant but not as a full-time position.

"Ideally, I think hospital Consultant, private practice on the side." (JRF3)

"I'd go split week, even if I did do FTTA I'd still choose a split week afterwards. I wouldn't ever do full time as a Consultant." (JRM3)

One of the female junior StRs explained how she would prefer to work in a district general hospital rather than a dental hospital.

"I'm not too keen on being in a dental hospital and teaching I find the system too big. In the dental hospital there are too many hoops to jump through to get anything sorted." (JRF3)

Some of the junior StRs had a preference towards working within specialist practice and owning their own business.

"I see myself in private, but I am thinking about having multicentres that are not inside the same country, probably internationally between two countries but mainly private." (JRF6)

"[…] at the moment [I'm] swaying more towards specialist practice and I think the decision for me then is to be an associate or buy into a practice. I think buying into a practice means you're not necessarily giving half your salary to somebody else, but it also restricts where you are located. […] On that side of things, I'm definitely 50:50." (JRM1)

This male junior StR explained that the secondary care setting was the reason why he was considering a career in primary care.

"[…] Whenever I went to hospitals it was to see sick relatives so just the association I made." (JRM1)

One of the male junior StRs who was considering post CCST training discussed the benefits he perceived to be of working within specialist practice, such as flexibility to work part time and to share childcare with his wife.

"I suppose practice is just a little bit more flexible than hospital, you can find a job to suit your hours, choose your days, not necessarily work five days a week [...]" (JRM2)

"My wife is in practice and I see a time where we can both do part time work and sharing a bit of childcare which would be nice so that aspect of specialist practice is attractive." (JRM2)

- **Academia as a career option**

One of the females StRs that was on an orthodontic academic training pathway discussed her desire to work as an NHS Consultant and clinical academic. This junior StR explained her reasons behind this decision and how academia offered variety.

"Ideally hospital Consultant but also doing teaching and research if possible. But then also working only four days a week." (JRF4)

"Variety again, you have got such a varied week, which I really like. I really enjoy the research and that is probably lucky because I have come from a research background." (JRF4)

Four out of six female junior StRs and all the male StRs were not interested in pursuing a formal clinical academic career. Some of the reasons given were:

"I prefer the clinical aspect, dealing with patients directly." (JRF6)

"The experience of going through ethical approval and jumping through all of those hoops I've found tough previously and I don't know that it is necessarily my cup of tea." (JRF1)

"The entire reason why I went into orthodontics is because it's clinical. I do enjoy the academic aspects of the course but the academic part for me is the theory behind why I'm doing the clinical work and the bit of the job that I enjoy is the clinical work. I don't enjoy academic work for academic works sake. My least favourite part of anything is writing." (JRM2)

"From what I gauge, I think the academic work wherever you do an academic post is somewhat prescribed to you and I think if I have little say in it then I'd struggle with it." (JRM3)

It was apparent that the junior StRs distinguished research from teaching when discussing a clinical academic career.

"I quite like the idea of teaching and I like the idea of doing something that is just not being in a single surgery all day, but that's because I like doing different things." (JRF1)

"Yeah, I fancy teaching more than I fancy doing research." (JRM3)

Amongst the junior StRs there was a general lack of awareness of the orthodontic academic training pathways. All the junior StRs were asked about their understanding of the academic training pathways and except for the female junior StR currently on an academic training pathway, the remaining StRs were unclear of the pathway. One of the female junior StRs expanded on her perception of academic training.

"I definitely don't think there is a lot of awareness around it, like I didn't know there was going to be an academic trainee with us, I didn't even know that was a thing, so I think there is a lack of awareness." (JRF1)

Two of the female junior StRs felt that offering people the opportunity to experience academia at an earlier stage of a dental career may increase this as a potential career option.

"There's probably loads of people who have studied dentistry that actually enjoy a bit of academia, but they've never been given the opportunity to show an interest." (JRF1)

"I think as an undergraduate as well having more exposure to it as well would be better, I think that is the way of introducing it. […] the more you know about things, the more you are interested in them, the more you are aware of them and would maybe carry that on." (JRF3)

4.3 Focus Groups 5 and 6: Female and Male Senior Orthodontic Specialty Training Registrars

Two focus groups were held for the senior StRs, which included three female and three male participants. One of the female senior StRs was undertaking formal academic training. Five main themes emerged from the focus groups:

1. Motivations to pursuing senior orthodontic specialty training
2. Facilitators to choosing to post CCST training
3. Advantages of post CCST training
4. Barriers to pursuing post CCST training
5. Future career plans

4.3.1 Motivations to Pursuing Senior Orthodontic Specialty Training

The senior StRs were asked why they had decided to pursue post CCST training

- **Desire to gain additional knowledge and skills**

The female and male senior StRs felt a reason to pursue post CCST training was the additional experience gained from being in training.

"I decided to do it because I knew there was more to learn and if I'd left and not continued with my training, I would have felt that I would have left halfway. […] If there was more to learn I wanted to learn it all." (SRF3)

"Getting more experience, a wider scope of practice as well, that comes into the end goal of the Consultant post, ultimately." (SRM3)

- **Career variety and security**

The female and male senior StRs explained how they felt undertaking additional training following CCST provided them with greater career variety.

"I wanted more experience clinically and I felt that it would keep my options open going forward. You can work in practice, you can work in a hospital. By stopping at the end of the three years it would have restricted my options." (SRF1)

"I felt if I stopped at specialist level, I might get a bit bored in the long term over a practicing life. I might want to have a bit more variety in my practice." (SRM1)

The senior StRs felt the NHS could be an uncertain place to work in the future and that post CCST training would enable them to have options with primary and secondary care.

"It keeps your options open for the future as well, especially with the climate and that things keep chopping and changing all the time, at least there's a bit more security for the future." (SRF3)

"I probably see myself working part time and more than anything trying to split the risk." (SRM1)

- **Reflection of a personality type**

The female senior StRs felt that one of the reasons why they had considered to pursue post CCST training was related to their personality types.

"If someone said there's another two more years, there's another training pathway for two more years, I think it's the type of personality that we have, I probably would have done that as well." (SRF3)

Similarly, one of the male senior StRs explained he had decided to pursue post CCST training due to a personal desire to reach the top of the training pathway.

"In everything that I have done I have always tried to be the best that I could be and try to get to that level where you are at the top." (SRM2)

Another male senior StRs explained how they felt they were on a pre-determined pathway to become a Consultant and the decision to pursue post CCST training came before knowing that he wanted to specialise in orthodontics.

"[…] I probably wanted to do Consultant level training before I wanted to do orthodontics, if that makes sense. So, I knew I wanted to feel like I had a skill in a particular area of dentistry that you have slightly better than average skills in." (SRM3)

4.3.2 Facilitators Related to Choosing to undertake Post CCST Training

- **Mentors**

The senior StRs felt that mentors had influenced their decision to pursue post CCST training.

"I think having the right mentors around you, can certainly influence your decision at that stage." (SRF2)

"When I started my specialty training even though I had already planned to do senior training and go that far, my trainers did inspire me to replicate them really." (SRM1)

- **Support**

The senior StRs identified support as a facilitator to pursuing post CCST training. For one of the female senior StRs the support came from the workplace, whereas for the male senior StR the support came from his family.

"I think I was encouraged to apply by several different people within either the university or within the hospital, so I felt that I was sort of in the right place to go for it." (SRF2)

"I'm lucky both of my parents are in the dental world and both have gone down academic type pathways. They've always been there to support me, I wouldn't say push me, but it was always nice to have that information there, be a very useful resource to go to." (SRM3)

- **Continuation of lifestyle**

Both the female and male senior StRs felt that a facilitator in pursing post CCST training immediately after junior specialty training was related to continuing their current lifestyle.

"[…] I didn't want to think five years down the line, actually I want to be a Consultant and take a pay cut then, whereas at the moment I haven't taken a pay cut." (SRF1)

"For me I had always planned to be a Consultant at the end of the day. I thought that personally, leaving specialty training, leaving and then coming back to senior training would be a bit harder than doing it all as one lump." (SRM1)

- **Post CCST Training pathway**

It was noted throughout both the female and male senior StR focus groups that there were elements of the post CCST training pathway could facilitate career progression. For example, one of the male senior StRs explained that due to his personal circumstances and family commitments at the time of applying for post CCST, if the post had not been part-time then it would have been difficult for him to pursue this.

"You can't just leave your family all of the time and drop them. It's very conflicting. For me the work-life balance was very important. If it hadn't been part-time, I couldn't have done it." (SRM2)

One of the female senior StRs explained how her success at the post CCST training national recruitment interview facilitated her to undertake senior StR training.

"Well I applied for the interview, went to the interview, thought if I get it I get it, if I don't get it, I don't get it, but I got it, so I'm here so that was a factor that pushed me into because I got the job." (SRF1)

- **Personal circumstances**

Some of the senior female StRs sensed that personal circumstances at the time of applying for post CCST training *i.e*. not having a family or being in relationships, made it easier for them to continue training.

"With quite a few registrars that I was training with, one of the factors that played a part was if they were ready to start a family and because I was by myself, I wasn't really in a rush to start a family or anything like that. I felt that I had been training for all this time I can easily carry on because it isn't a change of lifestyle […] I think it did help not having anything else going on." (SRF3)

"With regards to a family and stuff, there was no one there to think I'm ready to have kids […] I didn't think it was going to happen in the next two years, so I thought I might as well do this in the two years." (SRF1)

4.3.3 Advantages of the Post CCST Training Programme

During the focus groups the female and male senior StRs considered the advantages of post CCST training.

- **Post CCST training programme**

"[…] That is a selling point of this course really, that you do have study days, because actually when you're in practice, firstly you are paying for all of that yourself and secondly

you don't have the time to do it. We are given time and I think we should be selling that in a way." (SRF2)

"As a trainee in the hospital you get admin sessions and SPA [Supporting Professional Activities] sessions whereas you wouldn't in practice." (SRM2)

4.3.4 Barriers to Pursuing Post CCST Training

- **Lack of flexibility during post CCST training**

The senior StRs discussed the barriers to pursuing post CCST training. One of the male senior StRs felt that if there was greater opportunity and flexibility to undertake post CCST training part time, more people would apply. This senior StR felt that this would give people the option to work in specialist practice and ease a financial burden whilst being able to continue training.

"Coming back to the barrier thing, […] I think if it was more flexible to do part-time training for men and women it would become a lot more popular. I know that is a big barrier for a lot of colleagues who don't want to commit to doing it full-time for two years but would rather do it part-time where they can do a bit of practice and earn some money for once in their life." (SRM3)

- **Finances associated with orthodontic specialty training**

The female and male senior StRs discussed the impact of finances on post CCST training. One of the female StRs explained how continuing with post CCST training was less financially rewarding compared with specialist practice and how people not within dentistry found it difficult to understand this.

"It is really funny when you talk to people that have nothing to do with dentistry. […] Are you going to get paid more when you do this exam? […] I'm going to get paid less than if I stopped training a few years ago. So she wonders why I'm doing it because people normally assume that if you get paid more it's because you are in a better job and you're more qualified, they don't understand that you can be more qualified yet get paid less." (SRF3)

The same female StR explained how she felt the lower salary of post CCST compared with those working within specialist practice was a barrier for some people to continue training. This StR felt that it was particularly the people in relationships with other commitments that were most affected by this.

"I do find that with my peers, there were some that if they were in relationships that they felt like they needed more pay to continue what they were doing, like getting a house, having a family, stuff like that. There was a clear case that the single people continued training and the ones that probably needed more money felt like they needed to go into practice." (SRF3)

Comparably, one of the male senior StRs discussed how his family commitments made undertaking post CCST training challenging from a financial perspective.

"I've got a nine year old and a ten year old, we've got our final house, serious bills to pay, kids going to private school and the thought of dropping down to a trainee Consultant salary scared the life out of me and that was probably the biggest barrier for me.." (SRM2)

One of the other male senior StRs spoke about how finances had affected him during training and how this could be a barrier for other people. This StR discussed the financial sacrifices he had made to continue training.

"I was quite affected by the cost of training because I didn't expect the fees to be as high as they were. It was difficult, and I ended up taking loans and that was the hardest bit of training for me, really, was the financial worry. That was by far the hardest bit […]. I spent all of my short career saving towards something significant like a house purchase or anything really and within one year it was all gone on university fees and then the second year I had to take a loan and things like that. So, that was a significant barrier, but it wasn't something that would stop me, but I could see it stopping someone else that who potentially couldn't access additional funding because you can't get additional funding from the NHS or the student loans company for a second degree when you are being paid a wage." (SRM1)

In contrast, the same male senior StR went onto explain that he thought that even if people didn't pursue post CCST training it wasn't ultimately due to finances, as he felt those people wouldn't have pursued specialty training in the first instance.

"I don't think you can necessarily say that the people that have gone through to get to the end of their specialty training are necessarily money driven, because they probably would have peeled off from some of these jobs and pathways sooner, to earn money in practice. I don't think that many people in orthodontics, that money is their main driver." (SRM3)

- **Perception of NHS Orthodontic Consultants**

Both the female and male senior StRs felt that NHS Consultants were at times a barrier to pursuing post CCST training.

"I think the Consultants themselves sometimes don't make you feel that the job is that great. You think to yourself, I am putting all this effort in and I am going to try and be a Consultant and then if you have a Consultant then say, this is all awful and it was so much better 20 years ago, it's so difficult. Those are the people that you think, why am I doing this again?" (SRF2)

"Another barrier is at the end with Consultant posts and also seeing the current workforce that are working very hard and being overstretched. That is one thing that slightly puts you off and increasing pressures on NHS staff and university staff to kind of perform. I know those pressures would be in practice as well but, I always think there is that question mark in the back of your head, if the job at the end is exactly what you hope it to be and how is it going to change between now and the future?" (SRM3)

- **National recruitment process**

The senior StRs considered the process and timing of national recruitment to be a barrier to specialising.

"[…] the recruitment process itself is a barrier, because it is a bit rubbish." (SRM1)

"Two weeks after MOrth you have to apply, finishing applying and you are so emotionally and mentally drained […] Which is why I said before, I just turned up to the interview because I didn't prepare, but I thought if I get the job, I get it, if I don't, I'm so mentally drained that I don't care if I don't get it." (SRF1)

In addition, previous experiences of national recruitment at ST1 were a potential barrier for one of the male senior StRs.

"For me, I had a bad experience with recruitment and getting into ST1 initially. I wouldn't say that put me off, but it made me apprehensive of the process." (SRM3)

- **Post CCST training programme**

One of the female senior StRs felt that due to the intensity of the training during ST1-3, an additional two years of training at post CCST was a barrier for some junior StRs.

"Maybe one of the things that prevents people from applying to post CCST because it is two years more training and even though you are continuing what you're doing, the stakes are just so much higher. We're older, we've been doing this for a long time, […] fatigue starts to set in, it's really difficult. […] I'm not really sure if anyone else agrees but I find that it gets really lonely when you're doing this." (SRF3)

However, the senior StRs agreed that the length of post CCST training was not a barrier for them. The senior StRs felt this time in training was essential to gain additional skills and one male senior StRs felt that the training could be longer.

"[…] I think you do need that length of time to learn things properly and also, I think it takes away the people that are only interested in doing it for money or any other reason they are. I think for the people that really want to do it will come through, you hope." (SRF3)

"I definitely think the FTTA is too short. I think two years isn't long enough to do complex cases and that's where I see a benefit of run through where in your third year you take on the complex cases." (SRM1)

- **Exams**

Nearing the end of senior specialty training, StRs are expected to sit the ISFE in orthodontics. The female and male senior StRs explained how this could be a barrier for those currently in post CCST training from even completing the training.

"The exams and applying for jobs at the end of post CCST, they are not the easiest of things and so sometimes it actually puts you off, so I'm doing this but thinking do I actually want to apply for a Consultant job?" (SRF1)

"I think chatting to some FTTAs […] the final straw for them was the ISFE exam […] I know a few people that were close to throwing in the towel and not doing the ISFE come the end […] That is certainly another barrier as well." (SRM3)

- **Location of training posts**

Both the female and male senior StRs felt that the potential need to relocate for post CCST training was a barrier for continuing training.

"[…] you might have to relocate for post CCST. Most people don't want to relocate either." (SRF1)

"The geography of the situation plays a factor I think, because it is national recruitment, you get a lot less of say as to where you go. […] That plays a significant factor because it involves relocating people and you don't necessarily get a choice in where you get to relocate to." (SRM1)

One of the male senior StRs explained how if his post CCST training had not been available at his nearest district general hospital, he would not have been able to undertake the training. This StR explained how he felt this was perceived as a lack of commitment towards his training.

"If I hadn't got a job at District General Hospital A I wouldn't be an FTTA now and in the interview they said me, obviously you don't want to be a Consultant bad enough." (SRM2)

- **Personal sacrifices associated with undertaking post CCST training**

During the focus group the female senior StRs compared themselves to peers that had not pursued post CCST training and commented on the personal sacrifices they felt that suffered by undertaking additional training.

"You see colleagues having a much more balanced life by not doing this training." (SRF2)

"I think there are people that are in practice that do have a better work-life balance. We graduated years and years ago and we are still doing work." (SRF3)

"I've got my exam coming up and I don't feel that I can go out and see friends because I'm definitely not going to do any work, so you just stay in and you're in isolation really […] It's been years and years now […] I can see that is a deterrent." (SRF3)

- **Secondary care setting**

One of the female senior StRs felt that the secondary care environment was a barrier for some people applying for post CCST training.

"I think some people don't apply because they just don't want to work in the hospital. They say that they don't see themselves working in a hospital, so they don't see the point in doing the Consultant training." (SRF3)

4.3.5 Future Career Plans

- **Uncertainty regarding future career**

During the focus group, the senior StRs were asked about their future career plans. Two of the female senior StRs were uncertain about their future orthodontic careers.

"I'm not really sure at the moment, I'll see where life takes me." (SRF1)

"I think the really interesting knock on effect of the intensity of our training means that perhaps I'm less sure of the future. The good thing is that we have opened doors and it is nice to have those options, but I think sometimes it makes your decision making slightly less clear cut." (SRF2)

- **Specialist practice and secondary care**

Two of the female senior StRs were considering working as NHS Consultants. In addition to this one of the female senior StRs was also planning on working in primary care at the weekends.

"I'd like to work as a Consultant full time somewhere but maybe have a hand in practice at the weekend or something, so you are not out of touch with the practice side of things, that would be a good idea." (SRF3)

One of the male senior StRs was also considering working in both primary and secondary care and explained why he would not consider a full time NHS Consultant position.

"Personally, I see myself working part time as an NHS Consultant and working part time in private practice. […] I don't think being a Consultant in the NHS is the same job that it was 20 years ago or when our predecessors entered into and I think that they would say the exact same thing." (SRM1)

- **Academia**

The female StR undertaking orthodontic academic training discussed what she felt were the advantages and disadvantages of the training pathway she had taken.

"I really enjoyed the study part and I quite liked fitting it all together. As it happens my research is now outside of my clinical field in a way, which I didn't expect it to be. […] I think it has been quite challenging. So, I'm not sure I will want to continue that feeling of challenge forever." (SRF2)

Most of the other female and male senior StRs were not considering a traditional career in academia.

"No. I don't enjoy it, research is something I've done because it is part of the course and I'm more of a clinical person, a hands-on person and I find research quite difficult so I wouldn't do it." (SRF1)

"In terms of, doing academia to be doing research in the long run, no, because I wouldn't want the pressures of having to bring in a certain of income into the university and get things published." (SRM3)

One of the male senior StRs explained why he did not want to proceed down a formal academic training pathway but was considering a PhD in the future.

"I didn't want to be a 60% trainee, 40% research or 50:50. For more logistical reasons more than anything else. I think it's harder to organise part time life. It would have extended training. My view is that if I want to do a PhD in the future then that option is still open if you still have contact with a medical or dental school." (SRM1)

Two of the male senior StRs discussed the option of teaching in the future. However, none of the female senior StRs discussed this.

"In terms of more academia route, I think it's a relatively new thing but education in the university side is becoming more important to them and that's kind of more, the route I am interested in going down." (SRM3)

4.4 Focus Groups 7 and 8: Female and Male NHS Orthodontic Consultants and Clinical Academics

Two focus groups were held for the Consultants and clinical academics, which included three female and three male participants. One of the male participants was a Professor of Orthodontics. Six main themes emerged from the focus groups:

1. Motivations to choosing orthodontics as a career
2. Motivations to becoming an NHS Consultant and clinical academic
3. Barriers affecting a career in orthodontics – junior specialty training
4. Barriers affecting a career in orthodontics – post CCST training
5. Career options as an NHS Orthodontic Consultant and clinical academic
6. Emotional motifs

4.4.1 Motivations to Choosing Orthodontics as a Career

The NHS Orthodontic Consultant and clinical academic were asked to reflect on their decisions to enter a career in orthodontics.

- **Previous orthodontic experience and mentors**

The Consultants and clinical academic explained how their undergraduate experiences of orthodontics and mentors were motivating factors to pursuing a career in orthodontics.

"I also qualified in X University, so I had a similar undergraduate experience. So, I had lots of hands on (teaching) and an inspirational undergraduate teacher who was enthusiastic and positive about orthodontics […] Yeah so that's probably why I wanted to do orthodontics." (CF2)

"[…] I remember sitting in my final year dinner with an orthodontist who was here at the time and she said to me I'd be an orthodontist and hey presto she was right, because I decided at the time, I didn't want to end up like some maxfac surgeons that I've met. Orthodontists seem to be such a happy bunch." (CM3)

One of the male Consultants, also a clinical academic, discussed how mentors had had a positive influence at each stage of his orthodontic career.

"I think you are inspired by the people that teach you. When I was an undergrad, I had two really good teachers. Neither of them where Consultants, both were senior registrars, who were still enthusiastic, really up to date and very good. Then later on, we had the Prof in the department who was again, very inspiring. Yeah, so I would say it is the people around you." (CM2)

These views were not shared by all the female Consultants, one female Consultant discussed how her lack of orthodontic experience as an undergraduate dental student had initially dissuaded her against a career in orthodontics.

"I had a different experience in my undergraduate, I was not interested in orthodontics at all. It was not hands-on […] We just watched the registrars treat patients and then had to go and find journals to back up why they used certain mechanics. I'm a hands-on person so it didn't appeal to me at all." (CF3)

- **Preference over general dental practice**

The Consultants and clinical academic discussed how their experiences working as GDPs were motivations to enter a career in orthodontics.

"I actually thought I just wanted to be a general dentist until I started doing dentistry and I was drilling and filling. […] In orthodontics, you are, yes often taking teeth out, or asking someone else to do it for you, but you are making things better and not sort of destroying." (CF1)

"I wanted to become an orthodontist because I got to the end of dentistry and thought I can't do this for the next 30-40 years, what shall I do? I didn't want to do maxfacs because I

didn't want to be an undergraduate again and I thought I'll give orthodontics a go […]" (CM2)

4.4.2 Motivations to Becoming an NHS Consultant and Clinical Academic

The NHS Orthodontic Consultant and clinical academic were asked to reflect on their decisions to continue in training beyond CCST.

- **Desire to gain additional knowledge and skills**

The Consultants and clinical academic explained how they were motivated by the benefits of acquiring knowledge and skills through post CCST training.

"I guess I didn't feel quite finished as a specialist. I think I wanted to finish the two years and be as good as I could be […]." (CF2)

One of the male Consultants linked the desire to continue in training to his to personality.

"I'm sort of an all or nothing type, so for me it's if you are going to do something, do it properly. […] and do it well and for me that was being a Consultant." (CM3)

- **Career variety**

The female and male Consultants were motivated by the variety a career as a Consultant and clinical academic offered.

"I like the variety that it gives me here. You get a range, so it's the teaching I suppose and the ability to be able to be involved in different bits, not just treating patients." (CF1)

Career variety was often associated with the secondary care setting in comparison to specialist practice.

"Yeah and that's one of the other things, it offers you a degree of variety [secondary care] that's not there in specialist practice or in being a dentist." (CM3)

"For me, I decided I wanted to stay in the hospital system, but I can still do specialist practice. I can do both." (CF2)

- **The orthodontic team**

The Consultants and clinical academic explained how the orthodontic team within secondary care was a motivating factor in pursuing this career option.

"In a hospital you are not alone, you have this team around you, provided that everyone gets on and it is quite a nice place to be." (CF2)

"The core of the job, you treat some really complicated things in a safe environment, where you've got colleagues around you, that you can ask for advice or indeed pass it over or otherwise. So, it's a good environment to do things in that test you. Yeah so as a job, it's a terrific job." (CM1)

4.4.3 Facilitators Related to Pursuing a Career in Orthodontics and Training Beyond Specialist Level

- **Comparison between the specialities**

The female and male Consultants and clinical academic explained that when deciding whether to pursue a career in orthodontics they compared the dental specialities and through a process of elimination.

"I suppose I did do maxfacs, I did do restorative, I did a path job. They were all interesting but in a process of elimination, it did make me think, I do really want to do orthodontics." (CF2)

"It was a process of elimination. In dentistry there aren't that many options when you get to the end of it. If you're in medicine you've got loads of options, you're just really at the beginning of the journey and with dentistry you've got to the end of it and what are you going to do now? I don't want it to sound like it was a second-rate thing, but it was actually a process of elimination that didn't take very long for me." (CM2)

OMFS was one of the commonly compared specialities amongst the Consultants and clinical academic. However, several reasons were given as to why this was not pursued as a career.

Both female and male participants felt that the on-call shifts were a barrier.

"I did maxfacs for a year, just thought midway through that I didn't want to do medicine. I didn't fancy being on-call when I was 45." (CM1)

For the females this was due to the impact it would have on family.

"If you are going to be on maxfac on-call, […] it does have a big impact on your family life and that was quite important to me. So, fairly early on for me, oral surgery and maxfacs were out of the running, mostly for all of those kinds of reasons." (CF3)

The length of the OMFS training pathway including the time taken to complete an undergraduate medical degree was also a factor for the male Consultants.

"The idea of doing medicine for another four or five years and being virtually at the same point again didn't appeal to me." (CM2)

One of the male Consultants discussed how his experiences of working with a maxillofacial surgeon has deterred him from pursuing this career option.

"My first job was as a surgeon […] and I had the displeasure of working for one of the biggest bullies that I've ever worked for in my entire career. He stabbed me with a 2-0 silk needle on two occasions in theatre because I didn't retract well enough. So, that put me off being a maxfac surgeon because I didn't want to end up like that." (CM3)

- **Mentors**

The Consultants and clinical academic reflected on how mentors were inspirational in helping them pursue orthodontics as a career.

"It's role models, so for me. […] we had a new Consultant that came in, Consultant A and it was her first Consultant post, she was new, and she was female, and she was sort of that role model and inspired me I think to do orthodontics. She was very enthusiastic about it and supported me during that. I think that's always helpful if you've got someone that says, yeah you can do this and go on with it so." (CF1)

"Having Consultant A. I didn't even know who Consultant A was until I got on to the registrar programme, but she was […] phenomenal […] and when I think about some of the

ways I've structured my career with regards to my work-life balance has come from Consultant A." (CF2)

"I enjoyed it here and I think when it comes to facilitators and barriers the greatest thing is someone who inspires, you to do something and it is. Prof B said this is good, I like my job. If you like your job, you're going to inspire people." (CM1)

- **Post CCST Training pathway**

The Consultants found that the orthodontic specialty training pathway had helped them pursue their orthodontic careers. For one of the female Consultants it was related to the ability to train part time whilst she had children.

"So, yeah then I trained part-time […] The training pathway was great, I was able to finish my training and I was about six months behind my contemporary who I started with" (CF2)

For the male Consultant it was related to the opportunities within the training pathway.

"I truly didn't even know that orthodontics was competitive. I took a punt, applied, got very lucky [..] got in, did the course, got to the end, was lazy and applied for a FTTA, […] because it was easier then looking for a job and then at the end of that, fortunately a job became available and I became a Consultant." (CM1)

4.4.4 Barriers Affecting a Career in Orthodontics – Junior Specialty Training

The Consultants and clinical academic were asked to reflect on the barriers affecting a career in orthodontics. Interestingly the female Consultants often discussed this in relation to their own personal experiences whereas the male Consultants and clinical academic discussed what they perceived the barriers to be for those entering the profession.

- **Finances associated with junior orthodontic specialty training**

One of the male Consultants considered how finances associated with training *e.g*. salary and university fees, could be a barrier for those currently considering an orthodontic career.

"You're paying £9000 a year, plus your bench fees and you're probably not earning as much as you could be, as if you were just in general practice. So, there's a double whammy there." (CM2)

The impact of taking a job in general practice and then specialising later was also a barrier from a financial aspect. One of the female Consultants reflected on how peers working within general practice who were now considering specialising found finances to be a barrier.

"Some of my friends who are interested in doing orthodontics now, those barriers that I found fairly small are now huge, the cost of training, they're already paying mortgages, they have kids, how are they going to afford all of that? You get used to a certain lifestyle, I guess." (CF3)

The option of taking a break between junior and senior specialty training was discussed by one of the female Consultants.

"In some ways having that break and coming back should make the ideal candidate, they've bagged a bit of money, they've had a break, they are much better clinically because they've got that volume through, but then life I imagine, having children, the salary, the control, all of those things, if you go out with that intention, it might just temper what actually happens." (CF2)

4.4.5 Barriers Affecting a Career in Orthodontics – Post CCST Training

- **The Perception of NHS Orthodontic Consultants**

One of the male Consultants explained that when he was deciding whether to become a Consultant, he was attracted to the career variety, longevity and associated career package *e.g*. pension.

"When I was coming through, you felt that a Consultant post was a post for life, was a good package generally with it, pension amongst other things and […] the people above us who were at higher levels, who had gone through the whole thing who very happy, had fulfilling careers, lots of variety and other things involved in it." (CM3)

This Consultant went on to explain that he felt the aspects of the post that had initially inspired him were no longer there and alongside the current training process this could be a barrier for those currently considering undertaking post CCST training.

"Now you look at the workforce and generally speaking those things aren't there. They are there to some degree, but much less so. So, therefore the end thing that you are working for, is less attractive, but the process to go through seems more challenging and doesn't necessarily prepare you better either" (CM3)

Another male Consultant felt that junior orthodontic StRs had changed and no longer aspired to be Consultants.

"It's a shame in some ways that you used to look at say Consultants not just medical, dental as being top of the tree if you like, aspirational […] People would come to you and say try this out, all that sort of stuff. Those days have definitely gone, we're no longer seen, people don't aspire to be Consultants often, not so much as they once did." (CM1)

- **Finances associated with orthodontic specialty training**

One of the male Consultants felt that because the salary in specialist practice was greater than that of a senior StR, it was a barrier for those that had debts associated with their training.

"I guess when you come out if you are faced with, an opportunity to turn left and earn £100,000 without doing more training and pay it off quicker or turn right earning £50,000 and you're still paying your debt off and you've got £80,000 worth of debt and you don't need to move and maybe you've got a partner and maybe you'd like to buy a house or commit to something, I'm sure it would change your mind set. I get that, clearly, I get that." (CM3)

This opinion was shared by one of the female Consultants.

"You take a salary drop to do your post CCST training and then they charge you to do an exam and you've already paid to do the MOrth exam and it's all relative, but nevertheless there are little things that might tip the balance really." (CF3)

On the contrary, the Consultants commented on how finances were not a barrier for them in their career choices.

"If we wanted to make money out of orthodontics we wouldn't be sat here as Consultants." (CF1)

"Money was not a motivator for me. Job satisfaction was a bigger motivator for me. (CM2)

- **Post CCST training programme**

The female and male Consultants shared views on what they considered to be the barriers associated with the current post CCST training programme and ISFE exam.

"There is a bit of a rebellion towards, against the rigidity of the course." (CF1)

"I was very fortunate in that I got a letter at the end that said, we've been watching you, you're fine. But, now it's all about critical appraisal and management skills and one third of it, is treating the patients. And actually, the management skills, you'll learn when you turn up somewhere because they are different in every place. And critical appraisal can't we have ticked that off when you're doing your specialist training in your first three years? […] I think it's got out of hand. I think the people that are setting the exams have got it wrong. So, that would put me off." (CM2)

The male Consultants and clinical academic felt that post CCST training was too short and should be increased to three years.

"It should be at least six. I mean three years to be a specialist, three years as a senior registrar. It goes so quickly." (CM2)

"Yeah, I agree with that. Too short and maybe wrong focus." (CM1)

The female Consultants commented on how fatigue from junior orthodontic specialty training could be a deterrent when considering further training.

"Some people are just tired, and at the point where you need to say, let's do another two years, with another exam, is the time when sometimes you're at your lowest ebb." (CF2)

"One of my friends didn't turn up to the interview because he was burnt out by it all. If doing the extra two years is going to be more of this, then I'm done. Which is the wrong attitude." (CF3)

- **Location of training posts**

All the participants felt the lack of choice regarding the location of post CCST training posts was a barrier to those continuing in training.

"With national recruitment it is harder to necessarily pick where you end up and I think that is a barrier for people […] They don't want to keep moving around, so those barriers are a lot bigger." (CF2)

"There is a cost to relocating, ultimately. So, you're not going to do it, unless there is a very good reason." (CM3)

Despite recognising that some elements of national recruitment are barriers to continuing in post CCST, the competitive nature of national recruitment was not viewed as a barrier.

"I thought it was very straight forward [national recruitment], I wouldn't say that was a barrier at all, for men and women." (CF3)

"It's always been competitive. I don't have a problem with that. I think what is lacking now, at some levels, is real competition actually." (CM3)

- **Family considerations**

Only the female Consultants discussed family considerations as a barrier to pursuing post CCST training.

"One of my friends, her husband said you go on to an FTTA I will divorce you, I can't take anymore, I'm done." (CF2)

"I think children, not so much family, or money or time. I think children is a slight barrier, you can't be a stay at home mum and be a Consultant in the hospital working five days a week" (CF3)

Orthodontic specialty training and an orthodontic career appeared to have a negative impact on achieving a good work-life balance for the female orthodontists.

"[…] My other half was a bit like, you know can't we do something fun this weekend, no, I've got to do an essay, we can't go to that family thing." (CF3)

"My job leaches into family life now." (CF1)

This contrasted with one of the views of the male Consultants.

"On a work-life type balance, I've felt it was slightly different because I've felt like I was in a race to get somewhere and those other things just got left to the side a little bit until I'd got there." (CM3)

4.4.6 Career Options as an NHS Orthodontic Consultant and Clinical Academic

- **Specialist practice vs secondary care**

Despite working as NHS Orthodontic Consultants and clinical academics the male and female Consultants within these focus groups also worked within specialist practice. Within the focus group they reflected on the advantages and disadvantages of working within specialist practice and secondary care. The female and male Consultants agreed that specialist practice offered clinical freedom and variety that was not present in secondary care.

"That's the change, between having a salary and self-employment. You get a degree of flexibility with self-employment and some of the risks, uncertainty but in salary brings you structure which sometimes can be quite rigid and lack of control." (CF1)

"Whereas practice now for me is not about the money as such. It's about the other bits that you can't do in the hospital anymore. Using lingual and doing Invisalign because they interest me to do, bit more, something different, again variety." (CM3)

The participants also reported disadvantages of working within specialist practice. For the female Consultants this was in relation to a lack of sick leave and maternity pay due to being self-employed.

"My friend had her appendix out and her boss wanted her back within a week to see her private patients. Medically she was in a bit of a pickle and psychologically she was a mess because she was having pressure put on her by her boss to see these patients because they were private, and someone needed to see them." (CF2)

"It does, especially around maternity leave, […] My boss had two weeks off before she had to come back and start seeing her private patients. So, her baby came two weeks early so in total she had a month. I saw her private patients for the first two weeks, so she had a month, but she still had to come back for two afternoons a week seeing private patients and had to like breast feed in between patients and pump in between patients. Sorry for being graphic there. It's true, the practicalities of it, it's difficult for private. For NHS, it is a lot easier, but you still have to find a locum, so that is a real big factor and a real big plus factor or hospital and consultant training rather than specialist practice." (CF3)

For one of the male Consultants this was due to the volume of patients within specialist practice.

"You look at specialist practice and it can be turnover, turnover, turnover." (CM1)

- **Academia**

One of the female Consultants explained that she had considered a clinical academic career. However, felt that it was not an option for her at the time due to family considerations.

"So, I thought about it, briefly, I think as a follow up after my SpR [specialist registrar] training. I think at the time I had a young family, for me, I felt split in too many ways, […] trying to balance a young family on top of that, the time it would take out of my family time to complete a PhD for me, it was a lot extra work and I couldn't quite see the benefits being enough." (CF2)

In contrast, the male clinical academic discussed his experiences of clinical academic training with having a family.

"I have a very understanding wife, who has supported me all the way through, who has never said why are you doing that. This is what I want to do and its fine. […] I did a PhD […] and we had two kids, but you make it work. If your partner is supportive it can work. If

you can't, I don't know how you do it because there is an awful lot to do. The course is intense, […] you do need an awful lot of support. You just take it for granted when it is happening." (CM2)

Amongst the other Consultants, the reasons to not pursuing a clinical academic career were related to the negative effect an academia would have on clinical time.

"I always wanted to be an NHS Consultant and I didn't really want the pressures of an academic role. My passion is treating patients, not writing research papers. When you take an academic role, you reduce the amount of clinical time and that is where my interest and my focus is. So, for me, it wasn't the academic pathway that put me off, I wanted to do orthodontics and I like the hands on of treating patients and I didn't want to really reduce that time, because that is where my interest is, rather than research." (CF1)

"I don't think I could do it, if I'm honest. My strength are my hands, I like doing mechanics. […] I work hard, but I like working with my hands." (CM1)

One of the female Consultants discussed the merits of working within a dental hospital in relation to access to academia.

"I feel I get the best of all worlds working in dental hospital because I can […] help with supervision and write papers and things like that. But I don't feel like I have this pull or quota that I have to hit to get so many research papers or students through." (CF1)

4.4.7 Emotional Motifs

- **Family planning**

During the focus group the female Consultants discussed the topic of family planning and how having a family had impacted on them personally and on their careers. This topic was not raised within the male Consultant group. However, in relation to specialty training one male Consultant said:

"Life, family life came into it afterwards. It wasn't on the stack of options until I got somewhere and getting somewhere was being a Consultant, as strange as that might seem, that was it." (CM3)

Whereas, the female Consultants discussed the issue at length. One of the female Consultants discussed some of the benefits and disadvantages of having children during training and as a Consultant.

"I had mine [children] as a Consultant which means I was no longer having to sit exams and things like that but on the other hand you've got your patients there, you've got that, you still have that sort of, sense of, what's the word? Responsibility, to your patients." (CF1)

Another female Consultant discussed how she waited to finish her junior specialty training before starting a family. This Consultant made a reference to the consequences of having children during junior specialty training and how she delayed starting a family because of it.

"I met my husband at dental school, we were married at 25, he was working in practice and I guess, if I imagine that I was working in general practice as well we would have started our family a lot earlier. But I knew what I wanted to do […] having children during that three-year period [junior specialty training], I say was not tolerated, in a slightly jovial way, you just wouldn't have had, so our overseas did but you'd be slightly scared about having kids during that three-year time. And to be fair it is a really tough three years and I don't think I could have personally managed having a baby and delivered what I needed to deliver. […] But then the compromise was my husband and our family plans were then during my senior registrar training, when we did start a family." (CF2)

One of the female Consultants felt that the ability to have children whilst in training has improved over this time.

"I think things have very sensibly evolved over time and I would say that it is probably because there is a greater female presence in the workforce for orthodontics now, going all the way through, having gone through having children and having to do training etc." (CF1)

Despite this, another felt that the orthodontic specialty training pathway still needs to change in terms of starting families whilst in training.

"The training needs to fit better and be more flexible and be, I think the training needs to catch up, it needs to modernise. But I understand that it's a bit of a pain." (CF3)

- **Challenges of having a family and an orthodontic career**

The female Consultants were the only group to discuss the personal challenges of having a family and an orthodontic career.

"I work full time, I often work in the evening, this evening and at weekends, I often go away and if you had two people doing that then that's hard if you then have a family as well." (CF1)

"Men are getting a bit more involved or alternatively you get help, you get a nanny or an au pair or a child minder. I think there is a lot more of that within Consultants than necessarily working part time and general dental practice or specialist practice." (CF3)

- **Guilt**

During the focus group, the female Consultants described times where they experienced guilt during their careers, this was associated with taking maternity leave and childcare. One of the female Consultants discussed her feelings during maternity leave and how she felt a duty to return to work after six months.

"Interestingly I took six months off for all of my kids but I did, you do feel, that responsibility to come back, not just for your patients but for your team, because you know that when you are there, there are people covering for you, people that are already busy, already stretched and you are asking more of them, so that's pulling at your heart strings a little bit as well. So, I know people, they are taking a year off. I couldn't have done that. I don't think. I enjoy my job and I wanted to come back and that feeling of belonging I suppose, to come back to the team." (CF2)

The female Consultants also discussed how they managed to balance family commitments with working.

"We have got a nanny that's how we manage, I'm paying for my peace of mind so that I can sit here tonight and have this conversation because I know that my kids are happy. […] Am I the Mum that is doing the drop offs at the school […]? No and I just deal with that guilt." (CF2)

There was a feeling amongst the female Consultants that there are compromises that need to made between having a family and an orthodontic career.

"I suppose for me my career is very important to me. Not more important than my family or my family life, but you make the choice." (CF1)

"I think there is an element of you can't have it all." (CF2)

"We bring girls up with this idea that you can be super mum, super friend, super daughter, super career woman, you can do it all." (CF2)

"It's funny, my eldest daughter when she went to nursery, she learnt to say the nursery carers name and my husband, so Daddy, before she said Mummy and now you think, but actually that's life and you work with it and all sorts of things, but you can't have it all." (CF1)

Pressures from other women also had the ability to make the female Consultants feel guilty about their family and career decisions.

"It is amazing how many people will infer you are wrong, oh you send yours to nursery, four days a week. It's like, yeah and? It depends if you are insecure as a person, I think then that might not, that might play to your insecurities really. I was quite happy to be the man." (CF1)

- **Luck and fate**

One of the recurring primary codes in the male Consultant focus group was this notion that fate, and luck had played a significant role in their career progression.

"I've been quite lucky throughout my career. Part of that has been being in the right place at the right time, I think." (CM1)

"I've been very fortunate that things have just happened, and you make some of your own luck by being prepared in advance." (CM2)

"I've worked at carving out what I wanted to do and also things have fallen across my path as I've gone along." (CM3)

The results chapter presents the main findings from eight focus groups with participants at different stages of an orthodontic career. The decision to split the chapter by career stage allows the reader to understand the lived experiences, perceptions and issues facing participants at the different stages of an orthodontic career and how these factors change over the course of an orthodontic career. The results report on the different social positions of women and men in an orthodontic career. The following chapter will discuss the significance of these findings in relation to current understanding, the literature and how these results provide a new perspective into orthodontic career progression from a gendered perspective.

Chapter 5: Discussion

The literature review highlighted that there had been no qualitative studies investigating the factors that influence a career in orthodontics from an undergraduate dental student through to an NHS Consultant and clinical academic. Whilst there have been studies that have investigated the factors that can influence an orthodontic career at individual career stages *e.g*. work-life balance, career intentions, work patterns, none have been cross-sectional across various career stages, nor with the intention of understanding or improving gender disparities within orthodontics (Drugan *et al*., 2004; Blasius and Pae, 2005; Collins *et al*., 2009; Bateman *et al*., 2016; Al-Junaid *et al*., 2017). By utilising qualitative research principles, it has been possible to gain a unique insight into the lived experiences and perceptions of groups of people at different stages of the orthodontic pipeline. The study has investigated the motivations, facilitators and barriers that are influential at different stages of an orthodontic career and the effect gender has on this. The results chapter presented the main findings identified from the inductive thematic analysis. The discussion chapter will consider the implications of these findings in relation to current understanding, the literature and the new insight and perspective the research brings.

5.1 Motivations, Facilitators and Barriers During a Career in Orthodontics

It was identified that within this research, irrespective of gender, the movement of people along the orthodontic pipeline is complex. The orthodontic career pipeline from an undergraduate dental student to NHS Consultant or clinical academic can span a 14 to 17-year period and during that time people and their circumstances can change. People usually enter dentistry as single individuals and during specialty training establish personal relationships, marry, purchase houses and become parents. Therefore, it was not surprising to find that the motivations, facilitators and barriers during a career in orthodontics not only change but are complex. People are generally motivated to pursuing a career in orthodontics because of previous orthodontic experiences (clinical and personal), aspects of orthodontic treatment and career benefits (career variety, longevity). The desire to become a Consultant is often viewed as a reflection of one's personality to learn and develop. Mentors and support (parental, spouse) tend to facilitate an orthodontic career. Personal circumstances, finances and aspects of specialty training can cause people to drop out of the

pipeline. Due to the complexities and intertwining nature of the factors that influence a career in orthodontics, it is not possible to discuss the motivations, facilitators and barriers as separate entities. Instead themes that have emerged from the inductive thematic analysis will be discussed.

5.2 Comparison of the Dental Specialities

The research identified that when deciding whether to pursue a career in orthodontics, individuals frequently compare the different dental specialities on the perceived career advantages and disadvantages. The process appears to have an influential role in whether an individual undertakes an orthodontic career. The most frequently compared specialty with orthodontics was OMFS. Many of the participants in this study had undertaken DCT jobs in OMFS prior to pursuing orthodontic specialty training so the comparison to OMFS is logical. The presence of an on-call commitment in OMFS was the most cited barrier across all the focus group participants towards pursuing this as a career. The male participants were also deterred by the need to undertake another undergraduate degree in medicine. Although a postgraduate degree at either a Masters or Doctorate level needs to be undertaken as part of orthodontic specialty training, this was not viewed as a barrier due to the salaried nature of training. These findings are comparable to a survey carried out almost 30 years ago on the opinions of orthodontic specialty trainees, in which 18% of participants stated a preference for orthodontics over oral surgery because of the absence of on-call commitment. Interestingly in the same study, 21% were dissatisfied with general dentistry (Keith *et al*., 1997). The participants in this study described how previous experiences of general dental practice had motivated them towards undertaking dental specialty training.

Worryingly, in the current study, women considered the impact future careers would have on starting a family, before they had even entered higher education. Female undergraduate dental students and junior StRs, compared the merits of different careers prior to applying to study dentistry. Careers in dentistry and orthodontics were perceived as jobs that would suit having a family in the future. The perception that females view dentistry and orthodontics as a career suitable for having a family may help to explain why dentistry, unlike the majority of STEM subjects, is overrepresented in terms of the number of women applying at higher education entrance level (UCAS Analysis and Insights, 2018). It is

concerning that women at such an early age actively plan their careers around future caring duties. The finding implies that women enter dentistry with the perception that it is an equal and equitable profession. However, as the literature and this research indicates, this is not the case with evidence of occupational segregation within dentistry at a horizontal and vertical level. At a horizontal level, women are segregated within the dental specialities, with the overrepresentation of women in paediatrics and special care dentistry (GDC, 2020; Dental Schools Council, 2018). Women are also segregated at a vertical level with respect to occupying senior positions of clinical academia and positions of strategic importance, influence and leadership in orthodontics, examples being the numbers of female Professors and number of women as members on the BOS board of Trustees (Dental Schools Council, 2018; BOS, c2014b). Despite dentistry and orthodontics appearing to be an equal and fair profession, its foundations remain patriarchal. Systems within dentistry that determine career progression and professional excellence are responsible for creating gendered barriers and reinforcing gendered segregation. Research undertaken by the Trade and Industry Committee (2005) identified four broad factors that may contribute to occupational segregation: lack of education regarding career options, issues with training, workplace cultures including workplace sexism and lack of flexible working. Figure 4 provides a diagrammatic representation of the factors identified within this study that are contributing to occupational segregation in orthodontics.

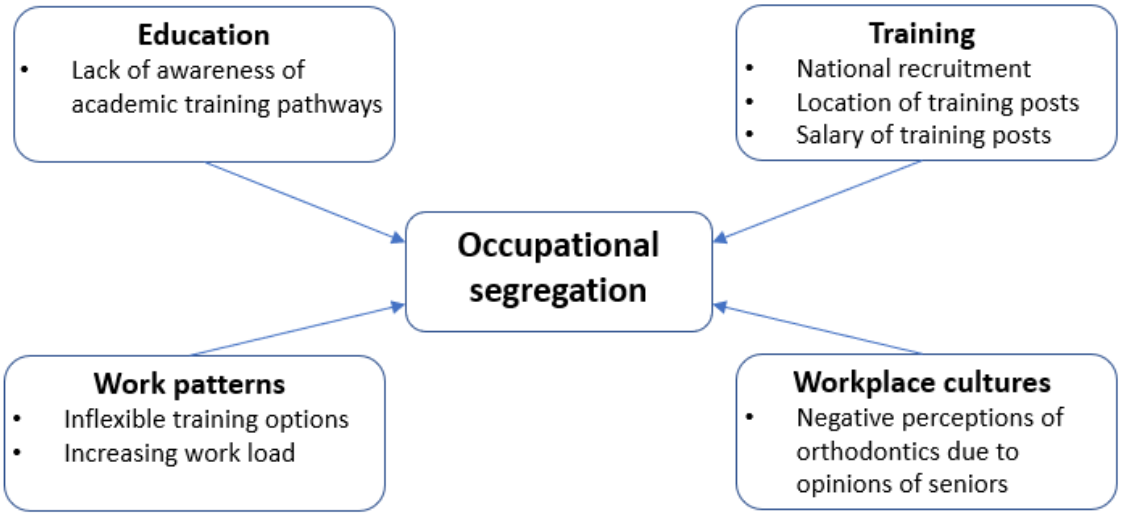

Figure 4: Diagrammatic representation of the factors contributing to occupational segregation in orthodontics.

Occupational segregation usually refers to the clustering of women in jobs that are low paid and low skilled (Close the Gap, 2013). However, this is not the case for dentistry and orthodontics. Therefore, an alternative approach to viewing the handicap associated with occupational segregation is to suggest that women have actively selected a profession where they are able to balance work and family life with a rewarding and skilled career. Despite this, it worth acknowledging that occupational segregation has significant implications on the workforce (Newman, 2014). Employees are at risk of facing inequalities related to pay *i.e*. the gender pay gap, and future career prospects particularly in positions of strategic importance and leadership. Employers can face difficulties in the recruitment and retention of different groups of people to professions, which contributes to diversity in the workplace and aids development of service (Trade and Industry Committee, 2005).

5.3 Work-life Balance and Orthodontics

This research adds depth of understanding to the term 'work-life balance' in orthodontics and highlights how it means different things to women and men. For female participants achieving a work-life balance enables equilibrium to be reached between an orthodontic career and family life. For junior male participants achieving a work-life balance creates an opportunity to balance an orthodontic career with the luxury of time to pursue other interests. To some extent this may explain why, when male orthodontists take career breaks, it is to travel, when compared to women, who take career breaks due to maternity leave (Blasius and Pae, 2005; Collins *et al*., 2009). Another striking feature of the research was that work-life balance was discussed in greater detail by the junior participants (*i.e*. those junior to a Consultant and clinical academic), assuming that these participants are typically younger, it correlates with the literature, that achieving a work-life balance is an important feature in the career expectations of the emerging workforce (Gallagher *et al*., 2007; Gallagher *et al*., 2008; Gallagher *et al*., 2009).

In this study, undergraduate dental students and junior StRs often perceived orthodontists to be happy people that were achieving a good work-life balance. Achieving a work-life balance throughout an orthodontic career was important to most of the focus group participants, except for the male Consultants. These findings are generally consistent with the literature, which has highlighted the importance of work-life balance and career

satisfaction in and during an orthodontic career (Roth *et al*., 2003; Bateman *et al*., 2016; Al-Junaid *et al*., 2017). Interestingly the male Consultants reported that they had initially prioritised their careers over a work-life balance. It could be hypothesised that the male participants were able to do this, either because they had no commitments at the time or because they were in relationships with stereotypical gender roles. Legacies of historical stereotyping mean women undertake the majority of domestic duties, even when in relationships without caregiving responsibilities. In addition, couples that are in dual-earning relationships with caregiving responsibilities, it is the woman who spends most of the time caring for the children (McMunn *et al*., 2020).

5.4 The Nature of Employment on a Career in Orthodontics

Most of the StRs in this study were undecided with respect to where they viewed themselves working in the future and felt this was a result of the intensity of orthodontic training. Despite this, a consistent finding was that most participants expressed a desire to work within both specialist practice and secondary care. These findings are similar to the results of a survey on the future career aspirations of dental specialty trainees (Drugan *et al*., 2004). In this study participants viewed working within primary and secondary care as a way of reducing the risk of working solely for the NHS and the uncertainties regarding its future. It was also viewed as a way of reaping the benefits from both workplaces. See Table 9 for the reported advantages and disadvantages of working within specialist practice and secondary care. It was acknowledged that specialist practice provided greater flexibility and clinical freedom than secondary care. However, secondary care provided the protection of a salary. A barrier for women working solely in specialist practice was the lack of sick leave and maternity pay, which could translate into an increased desire for women to work as NHS Consultants. However, both female and male participants expressed no desire to work full time as an NHS Consultant. The problem with this is two-fold. The career aspirations of the emerging workforce imply that to ensure there are enough NHS Consultants in the workforce, greater numbers of senior StRs need to be trained. However, there is already a national shortage of NHS Orthodontic Consultants, simply increasing the number of post CCST training posts to reflect the desired work patterns of the workforce is insufficient considering the issues facing recruitment to post CCST training posts (Sandler, 2018).

At the time of writing this dissertation, there is an ongoing pandemic caused by coronavirus disease (COVID-19) (World Health Organization, 2020). On the 25th March 2020, the Chief Dental Officer called for all routine, non-urgent dental care to be temporarily stopped due to COVID-19 (NHS England and NHS Improvement, 2020). The effect of stopping services has been a challenging time financially for self-employed dentists and orthodontists working withing primary care (British Dental Association, 2020). It is unknown what effects the pandemic may have on the career aspirations of dentists and orthodontists in training and whether there will be a shift towards seeking financial security from a salaried career in secondary care, or consideration of a career in clinical academia.

	Advantages	**Disadvantages**
Specialist practice	Flexibility Clinical freedom	Self-employment Lack of career benefits (pension, maternity, sick pay)
Secondary care	Salaried Career benefits (pension, maternity, sick pay) The sense of a 'team' Opportunities to teach	Rigidity 'Red tape' Bureaucracy

Table 9: Reported advantages and disadvantages of working within specialist practice and secondary care.

5.5 The Role of a Support Network During an Orthodontic Career

The research identified how vital a support network *i.e*. encouragement and assistance from partners, parents and peers is to an orthodontic career. The role of support has not been previously documented in an orthodontic career. It is essential for dentists to have support when entering the orthodontic pipeline and at all stages of orthodontic career progression. The need for a support network highlights how critical these relationships are in career development. It demonstrates that progression through the orthodontic pipeline is laborious and incurs sacrifices on many levels. People require support and assistance in making decisions related to career progression and to be able to deal with the challenges (relocating, fatigue, workload) that orthodontic training presents. Female participants

discussed the importance of colleague support (peers and Consultants) to an orthodontic career, whereas family support (partners) was the most critical to male participants. Similarly, a recent qualitative study on dentist's initial post qualification training experiences identified peer support as an important facilitator in dental career development (Coleman and Finn, 2019).

The research identified how a lack of support from partners was a barrier for both genders when considering whether to pursue post CCST training. This was often related to a partner being unwilling to move for a training post, the intensity of training and the detrimental effects on personal life. The research sheds light on the effect the orthodontic training pathway has on a specialist trainee's immediate family. The sacrifices incurred by an StR undertaking orthodontic training undoubtedly infiltrates onto partners. Partners need to be mutually willing to make sacrifices of their own as a sign of support. The role of a support network in and during an orthodontic career has not been previously documented within the literature. This research adds depth and understanding into how support plays a significant role in orthodontic career progression.

5.6 Location of Training Posts on a Career in Orthodontics

In this study, the location of training posts was the most frequently discussed barrier amongst the participants and is a finding that has been previously reported within orthodontic literature (Jauhar *et al*., 2016). Each stage of the orthodontic training pathway is associated with national recruitment and the possible necessity to relocate for a training post. Candidates interview rank usually determines the likelihood of successfully acquiring a preferred training post. The undesirable consequence of relocating for a training post was identified as a barrier to career progression for both women and men. Issues related to the location of training posts has been previously documented and recognised as a pivotal reason for a candidate to withdraw from a dental recruitment process (Donnell and Foley, 2020). Interestingly, within this study as the males progressed through the orthodontic pipeline, the location of training posts, which was initially not a barrier, became one when having to consider children. It demonstrates that women and men have different thresholds for when the issue of relocating becomes a barrier. For women it appears to be a barrier throughout the entire orthodontic career pathway but becomes a barrier for men later in

the pipeline. It highlights that the national recruitment process creates geographical barriers that are inequitable for women and men. StRs were concerned that the inability to relocate for a training post could be interpreted as a lack of commitment to the orthodontic specialty by those in senior positions. For all participants, the issue of location became an increasingly greater barrier with each subsequent period of training, particularly when applying for post CCST posts. It reveals a trade-off between being able to stay in a geographical area and relocating for additional career opportunities, that most StRs are not willing to undertake. Considering the difficulties facing recruitment to post CCST training, a potential solution might be for national recruitment to move towards a more localised, regional approach, which might improve recruitment at post CCST level.

5.7 Recruitment and Training Pathways in Orthodontics

Recruitment to orthodontic specialty training posts, both at a junior and senior level, is currently comprised of MSIs. Most of the participants in this study had no complaints about the equity of the national recruitment process. This is consistent with the findings of a survey conducted on the perception of orthodontic national recruitment to ST1 (Sia, 2014; Little *et al*., 2016). In this study, male participants identified the competition ratios at ST1 *i.e*. the number of applicants to posts, to be a barrier to an orthodontic career. The male participants attached an element of luck and fate to the success of gaining a junior StR post and that it was a consequence of an almost 'random event'. Therefore, this finding questions whether men perceive the national recruitment process to be adequate at selecting the best candidates for the post. In addition, there seemed to be a limit to how many times a male dentist would go through the ST1 recruitment process, suggesting a pragmatic attitude towards recruitment. Currently fewer men are accepted onto junior orthodontic specialty training posts (Little *et al*., 2016). This may indicate that, although the process appears to be fair, there could be a leaky pipeline with respect to men and their success at ST1 interviews. To date there has been no published data on gender and performance at orthodontic national recruitment interviews or whether the gender demographics within StR posts is reflective of those applying. In a study investigating the effect of gender on performance during multiple mini interviews at undergraduate dental interviews, female candidate's performance was reported to be statistically better than males (Barbour and Sandy, 2014). The study was carried out at one UK dental school.

Therefore, the results should be interpreted with caution as they are not representational of all UK dental institutions. Data indicates that the demographics of people awarded a place to study dentistry is representative of those applying, which would suggest that across the UK, the interview process is fair (UCAS, 2020). Considering the potential leaky pipeline in orthodontics at national recruitment a similar study in orthodontics, particularly for junior StR posts is recommended.

Previous research has identified that dental students perceive dentistry to be a career that offers flexibility, which is an important motivator to a dental career (Gallagher *et al*., 2008). The research conducted in this study adds to this understanding and provides an insight into how participants value flexibility in an orthodontic career. In addition to the flexibility offered from an orthodontic career, participants desire flexibility in the training pathway. Flexible training, *i.e*. less than full-time training, and the ability to work part-time in specialist practice during training was a significant facilitator for those considering post CCST training. For the female participants, the option to undertake flexible training allowed those with caring commitments the time to do this. Male participants felt the ability to undertake flexible training would provide them with an opportunity to work in specialist practice and financially support their families, which would act as compensation for the sacrifices partners and families have already made in supporting them throughout their careers. A lack of flexible training is a reason why the pipeline leaks. Currently a trainee will only be considered for less than full time training if they have a justifiable reason, and requests are prioritised on meeting specific criteria *e.g*. disability, poor health, caring responsibilities (COPDEND, 2018). To increase recruitment to post CCST training, it would seem sensible to enable more trainees to undertake flexible training for reasons other than those outline in the Dental Gold Guide.

Dental students have strong desires to become specialists, with orthodontics being one of the most popular dental specialities (Stewart *et al*., 2005; Stewart *et al*., 2007; Gallagher *et al*., 2009; Jauhar *et al*., 2016; Puryer *et al*., 2016; Puryer and Patel, 2016; Lee and Ross, 2017; Puryer *et al*., 2018). The study demonstrates that with the movement of people through the orthodontic pipeline, the reality of what it takes to become an orthodontist and NHS Consultant becomes more apparent. The emotional and psychological impacts of orthodontic training are not often cited within the literature and this research adds

understanding and new lines of enquiry. It is interesting that when people move through the training pathway the impact of years of intense training displays itself with fatigue, burn out, stress and loneliness. It is essential that trainees are signposted to the ways that they can access support. As a recommendation of this research it is suggested that trainees are encouraged to attend courses on stress, resilience and wellbeing to help them cope with the intensities of training.

5.8 Having a Family and the Effect on a Career in Orthodontics

The gender demographics within orthodontics has and is continuing to change, with increasingly more women entering the workforce (Robinson *et al*., 2005; Murphy *et al*., 2006; Collins *et al.,* 2008; Little *et al*., 2016). Research in academic surgery has recognised that when women work in senior positions, there are increased opportunities for their collective voice to be heard during policy making procedures (Zhuge *et al*., 2011). Interestingly, to support this, women who have progressed through the orthodontic pipeline to become Consultants, felt there had been significant improvements over their working careers with respect to the ability to start a family during training. It could be hypothesised that this is the result of an increased female presence within senior positions of the workforce and the changes they have made directly and indirectly to training. Another hypothesis, is that female Consultants that are accustomed to an orthodontic career, have accepted over time the practices that define professional success set by previous generations of male orthodontists (Le Feuvre, 2009). This is supported by the fact that female junior StRs, who are relatively new to the orthodontic pipeline, feel that training still needed to become more flexible. It supports the idea that for occupational feminisation to occur, women need to adapt to behaviours and attitudes that are considered 'masculine' despite being discriminatory to women. With this notion, orthodontics becomes a profession dominated by women that 'have what it takes' to succeed. In this view of workplace feminisation, women affirm commitment to professions by staying single or delaying starting families. However, these women are not representative of their male counterparts as the males often achieve career success alongside fatherhood (Le Feuvre, 2009). To support this view, women in this study tended to wait until senior registrar training or beyond before starting a family, unlike the male participants who felt able to have children prior to this. Currently, junior StRs who take breaks for longer than two

months during their training, must extend their pre-CCST training end date. In addition, there is a requirement that StRs must undertake a period of 18 months continuous training before sitting the MOrth exam. The rule means, women perceive the rigidity of junior StR training to negatively impact on their ability to start a family during training. It is commonplace for female dentists and orthodontic specialty trainees to establish their careers before starting a family and is a trend that is not observed in men (Keith *et al*., 1997; Ayers *et al*., 2008). In a cross-sectional study conducted in the US on orthodontic work patterns, female orthodontists were significantly older than male orthodontists when they had their first child (Blasius and Pae, 2005). Unfortunately advancing maternal age is associated with increased pregnancy risk factors (Luke and Brown, 2007). The study demonstrates how aware female orthodontists are of the impact children has on their training and careers. To mitigate the effects of children on careers, women delay starting families. Whilst on a personal level this strategy might make sense, when women collectively delay starting families until they have reached a point in their careers, there are implications on the workforce. If women delay starting families to senior StR or Consultant level, there will be a rise in the number of women taking maternity leave at that point of the pipeline. Orthodontic Consultants are responsible for training junior and senior StRs and career breaks can impact on training and service provision. There is already a shortage of orthodontic Consultants and this research highlights that women are aware of the burden maternity leave has on the rest of the team. As a result, women feel guilty for taking maternity leave and have a sense of responsibility to get back to the team. To alleviate these issues female orthodontists do not often take advantage of the full amount of maternity leave available to them.

Interestingly, male junior StRs spoke openly about their ease with respect to starting a family whilst in training, and acknowledged it was easier for them because they were male. This is probably associated with fact that statutory paternity leave causes a two week disruption to training, unlike a lengthy career break such as that from one or multiple maternity breaks. In two cross-sectional studies on undergraduate dental students, respondents felt male dentists had a career advantage over female dentists as they did not need to take career breaks (Stewart *et al*., 2007; Puryer and Patel, 2016). Although the female StRs in this study discussed starting a family whilst in training, there seemed to be a

reluctance to openly discuss this, particularly from a personal perspective. The female StRs may have felt uncomfortable discussing personal details in a group setting, where there was no guarantee that fellow participants would maintain confidentiality after the session. It could also be an example of impression management. To support this theory, the female Consultants were able to discuss their previous experiences of starting a family without concern about how they would be perceived by others. Impression management, or self-presentation, is the process by which people modify their behaviours so that their image maintains the trajectory to achieve their goals (Leary and Allen, 2011). This would imply that the female participants were concerned about discussing starting a family in case they were perceived to be less committed to their careers. The assumption fits with literature which has highlighted that society perceive women to be less committed to a career following the birth of a child (Fawcett Society, 2016). However, considering that female orthodontists experience guilt and limit maternity leave, this assumption is disputed.

In this research, women with successful orthodontic careers and families frequently expressed feelings of guilt. In contrast, the emotions men commonly expressed in this study with respect to their careers, were related to luck, fate and the attitude of 'being in the right place at the right time'. Female participants in this study, expressed how other mothers, who were not dentists or orthodontists, would infer poor parenting for working and utilising childcare support. In a Canadian qualitative research study, female orthodontists discussed how they felt they had to limit maternity leave and required support systems to help with childcare. In the study, the female orthodontists reported that by reducing maternity leave, there were negative consequences on the relationships with other mothers and as a result experienced inner conflicts between their professional and maternal duties (Davidson *et al*., 2012). Feelings of guilt are reported to become normal generic emotions for working mothers. Research highlights that mothers experience higher levels of work associated family guilt than men (Borelli *et al*., 2017). The literature suggests that people perceive the satisfied working mother, as more selfish than the satisfied non-employed mother or the dissatisfied working mother. Working mothers are also viewed as less committed to motherhood (Gorman and Fritzsche, 2002). In addition, prospective dental students felt that a child would suffer if a mother chose to work full time, with less detrimental effects on a child if a mother worked part time (Stewart *et al*., 2005). Women's representation in the UK

workforce has significantly improved over the last 40 years. Yet attitudes towards working mothers has not changed at the same rate. 'Good mother' stereotypes appear engrained in UK society and are based partially on traditional biological traits. Despite this, it is possible for these societal views to change (Guendouzi, 2006).

5.9 The Role of Finances on a Career in Orthodontics

In this study undergraduate dental students and junior StRs identified the salary of an orthodontist as a motivator to a career in orthodontics. Junior StRs wanted to receive financial remuneration for their commitment to training. Financial sacrifices associated with training, such as tuition fees (£9,250 per annum) and the reduced StR salary (£48,075) compared to a GDP (£68,100 on average) were viewed as a long-term financial investment (NHS Digital, 2019; NHS Employers, 2020). Interestingly, the benefit of the orthodontic salary was not viewed as a way of earning more, but in fact working less, offering greater flexibility and freedom. This is consistent with research into the different financial drivers expressed by the different generations. Generation Y (born 1980-1999) who will make up at least 75% of the workforce by 2025, value flexibility in their careers (Redmond, 2017).

Both genders and all grades reported the impact training and debt had on their savings, holidays and purchasing houses, which is further evidence of the personal sacrifices that are incurred with orthodontic specialisation. A similar finding was reported in a survey carried out in 1993 on the opinions of UK orthodontic StRs (Keith *et al*., 1997). This survey was carried out almost 30 years ago, and it is interesting to note that little has changed with respect to the financial impact training has on trainees. In this study, female and male participants are both at risk of leaking out of the pipeline after junior StR training, due to finances and the desire to purchase houses or support families. Finances were also viewed as a barrier to those wishing to return to post CCST training, in that once an orthodontic specialist had become acclimatised to a higher salary, it would be difficult to take a pay cut to the level of a post CCST trainee. The research demonstrates the impact just one additional barrier can have on career progression. The further people progress down the pipeline, the less tolerance and reserve they have in the system to cope with any additional barriers. Interestingly none of the senior participants or Consultants felt that money had been a barrier for them pursing post CCST training. Instead they felt that at the time of their

decision, career variety, the orthodontic team and job satisfaction outweighed any financial barrier. Since the Consultants have trained there have significant increases with respect to student debt so it is difficult to report on how finances would affect those Consultants if they were in training today.

5.10 The Role of Mentors on a Career in Orthodontics

This research identified that mentors have a significant role at each stage of an orthodontic career and that mentors are always more senior and experienced colleagues. The research highlighted that anyone at any stage along the orthodontic pipeline can be a mentor, albeit not always part of a formal mentee-mentor relationship *e.g*. educational supervisor. There is a lack of research within the literature on the effects of mentors on an orthodontic career. However, the importance of mentoring relationships in orthodontics are consistent with a review article published by Arkutu and Rock (2006). Within this study, participants that were early on in their orthodontic careers viewed NHS Consultants as helpful and inspiring. Although the senior StRs agreed with this, they also reflected how NHS Consultants could have a detrimental effect on career progression. It was generally viewed amongst the senior StRs that NHS Consultants made the career at times seem undesirable. This was not necessarily a direct consequence of the Consultants themselves, but a reflection on how the NHS had changed, with increasing levels of 'red tape' and bureaucracy. Surprisingly, the Consultants agreed that being an NHS Consultant was not as appealing as it was to them when they had first entered the profession, and felt they were viewed as less aspirational by junior colleagues. The importance of same-sex mentoring was found to be significant at a senior level particularly for women planning maternity leave, less than full time training and balancing work and family life. These findings are similar to those found in a systematic review published on academic medicine (Sambunjak *et al.,* 2010).

People within the orthodontic pipeline have the potential to become a mentor to a less experienced colleague, yet many of these individuals will not have undergone any formal training. In a qualitative study on orthodontic Consultant experiences of mentoring, very few of the participants reported to have received any formal training in mentoring and expressed a desire for this (Parvizi *et al*., 2020). It has been identified within this research that barriers do exist with respect to mentoring and the recruitment of trainees to senior

registrar posts. Therefore, it may be worth considering the creation of formal training opportunities to those in training posts *e.g*. study days, workshops on being a mentor, so that the mentee-mentor relationship can be improved to help people progress during an orthodontic career.

5.11 Motivations, Facilitators and Barriers During a Career in Orthodontic Academia

Surprisingly, few, if any participants expressed an interest in becoming an orthodontic clinical academic. Participants reported that they undertook orthodontic specialty training with the intention of having a clinical career rather than an academic career. This finding is consistent with previous research that highlighted less than 1% of US senior dental students and 7% of orthodontic specialty training registrars were considering a career in academia (Formicola, 2017; Keith *et al*., 1997). This is concerning for the future of orthodontic academia. There is already a national shortage of clinical academic orthodontists, as there is with all the dental specialities (Dental Schools Council, 2018). Clinical academic orthodontists are vital members of the orthodontic team and have significant roles in education, teaching and research (Trotman *et al*., 2002). Despite these findings, participants within this study acknowledged that a clinical academic career would provide career variety and the ability to keep up to date with research. Previous research experience, such as applying for ethical approval and perceived pressures within academia were demotivating factors for a clinical academic career. Interestingly, and perhaps by contrast, a lack of research experience during undergraduate level was also identified as a barrier.

Most of the participants within this study explained how a motivation for pursuing orthodontic specialty training was related to the enjoyment of clinical orthodontics and there was concern that a clinical academic career would limit this exposure. Participants explained that the length of time in training to become a clinical academic was a barrier to pursuing this career option, which in part was related to finances. Clinical academic trainees are salaried and are eligible to apply for an NIHR bursary (currently £1000 per year) to subsidise the costs incurred from attending meetings and conferences (NIHR, 2019c). Amongst the junior participants there was a lack of knowledge with regards to the formal academic training pathways and the distinction between the academic career pathways

(formal academics and clinical teachers). Despite this, many of the junior participants expressed some desire to have a role in teaching. These findings are consistent with those reported in a qualitative study carried out in the US on the perceptions of a dental clinical academic career (Trotman *et al*., 2002). Considering the length of the formal academic training pathway and the barriers noted here, it would seem imperative that changes are made to inspire and recruit people to orthodontic academia, from an early stage of a dental career *i.e*. at an undergraduate level. Dental students need to be made aware of the career options within academia and the undergraduate curriculum should aim to ensure positive research opportunities. HEE is currently reviewing dental education and the ways to increase opportunities within training posts *e.g*. DCT, but from this research it would seem it needs to be provided at an earlier stage than this (HEE, 2018b; HEE, 2019b).

5.12 The Role of Same-sex Mentors on a Career in Orthodontic Academia

Currently within orthodontics, 92% of professors are male (Dental Schools Council, 2017). Research within academic medicine has found that male mentors are not always in the best position to provide advice to women on matters such as maternity leave (Straus *et al*., 2009). An absence of women within senior positions of academia could be contributing to the glass ceiling, where women are unable to break through the barriers facing them to reach positions of seniority. This research highlights that women are interested in pursuing a career in orthodontic academia. One female Consultant who had expressed an interest in pursuing academia had to leak out of the pipeline because of not seeing a way to balance her work and family life. Interestingly, in contrast, one of the male Professors spoke openly about his positive experiences of an academic career whilst having a family. Two of the female StRs are in the early stages of an academic career and it may only be a matter of time before female representation at Professorship level is improved. However, this may not occur due to the issue's women face with respect to vertical segregation (Morley, 2013).

5.13 The Relationship Between the Factors Affecting an Orthodontic Career

Figure 5 provides a diagrammatic representation of the 'push' and 'pull' factors in an orthodontic career. The 'push' factors are the barriers, the reasons behind why people drop out of the orthodontic pipeline. The 'pull' factors are the motivators and facilitators, that

lead people to enter and continue along the orthodontic pipeline. The figure demonstrates the considerable amount of pressure people in the orthodontic pipeline are under. The pipeline is fraught with impediments that affect how people move through an orthodontic career. People are caught between finding a balance between their career aspirations and conflicting personal, financial, psychological, emotional and institutional factors that appear to work against career progression. It is easy to understand why people drop out of the pipeline and why the profession is experiencing difficulties recruiting NHS Consultants and clinical academics. There are a number of key pressure points where the pipeline is particularly vulnerable, junior orthodontic training for women, recruitment to post CCST, recruitment to clinical academia and progression of women in clinical academic careers. By appreciating the difficulties facing career progression, it is clear that significant work needs to be undertaken by those in positions of strategic importance and leadership to 'mop up' the leaky areas to make career progression through the whole pipeline desirable, equal and fair.

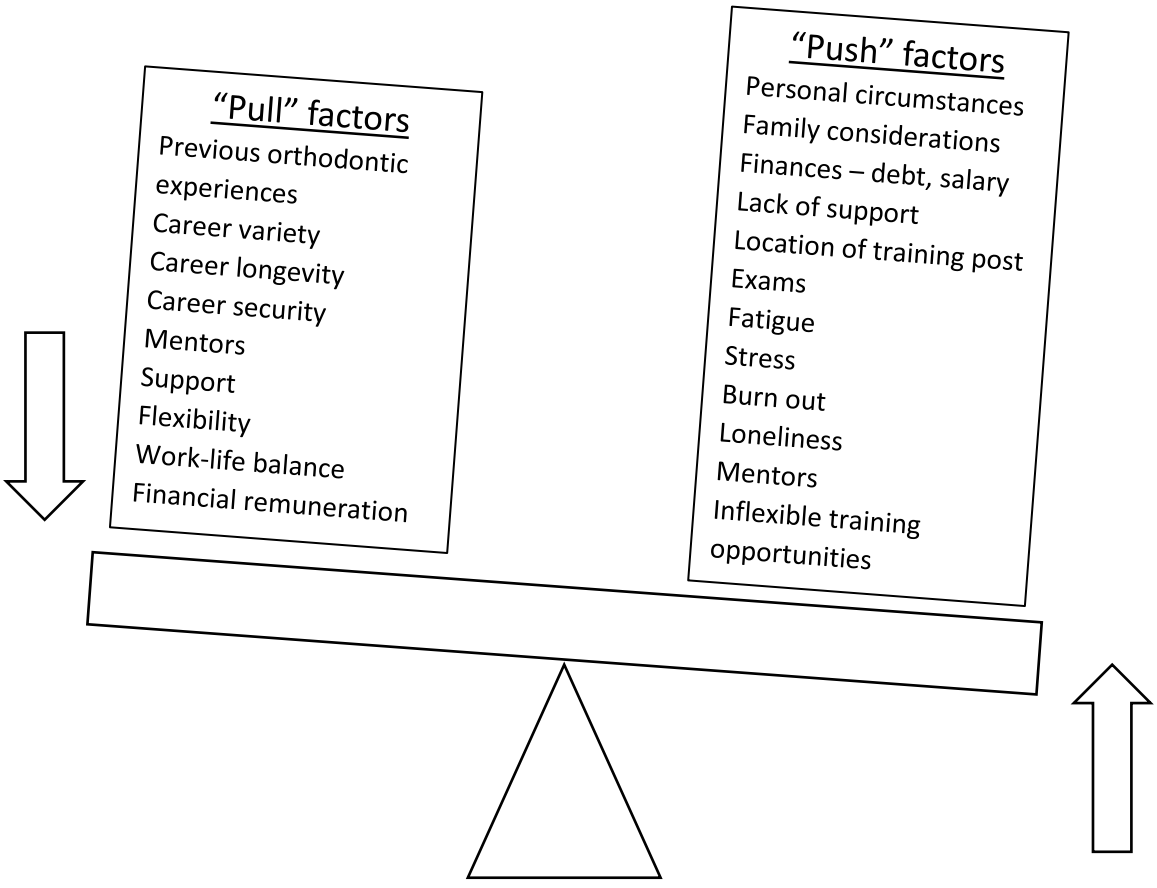

Figure 5: Diagrammatic representation of the 'push' and 'pull' factors in an orthodontic career.

Chapter 6: Conclusions

In conclusion, this study has investigated the factors that influence a career in orthodontics and how these factors change over an orthodontic career. The study has drawn attention to the effect of gender on an orthodontic career, the (in)equalities and the implications both have on a personal and wider level. By utilising a qualitative research design, the study has provided a unique insight into the experiences and views of the participants, in a novel area of research.

A key finding of this research is that irrespective of gender, the movement of people along the orthodontic pipeline is complex and influenced by many factors. Generally, people are motivated to a career in orthodontics based on previous orthodontic experiences, the type of treatment provided by orthodontists, the absence of an on-call commitment, financial remuneration and the perception that orthodontists achieve a good work life balance, whilst maintaining fulfilling and varied careers. There is a close association between career progression and finances. The financial cost of a reduced salary and university fees whilst undertaking junior orthodontic specialty training is not a barrier to those wishing to become a specialist. However, finances are still an important consideration at this and the other stages of an orthodontic career.

The research has demonstrated that women and men experience different barriers during an orthodontic career. Junior male participants reported a barrier at ST1 national recruitment interviews due to the number of applicants and competition to posts. Alongside this, fewer men are accepted onto junior orthodontic specialty training posts which suggests there may be a leaky pipeline with respect to men at this juncture. However, further research is required to determine this. The impact of having a family affects women throughout all stages of an orthodontic career. Female dental students base career decisions on the likelihood of having a family in the future, which demonstrates the continuation of historical legacies of gendered stereotyping, where women undertake the majority of childcare. Junior orthodontic specialty training is a barrier for women starting a family and as a result, often delay this. In contrast, men openly acknowledge the ease in their ability to start a family during this stage of training. Women with families report

negative emotions of guilt, which are associated with trying to balance work and family life and the societal attitudes towards working mothers.

Junior orthodontic StRs appreciate that by undertaking post CCST training, additional skills, career variety and security are gained. Despite this, women and men leak out of the orthodontic pipeline when progressing onto senior orthodontic specialty training. Student debt, the nature of national recruitment, the post CCST training salary, fatigue, families, mentors, support, the ISFE exam and personal sacrifices associated with continued training all influence this decision. If trainees could undertake flexible training during post CCST training, it would allow them to work in specialist practice and may help to address some of the barriers associated with finances. It is suggested that a more localised regional approach to recruitment is considered, to improve recruitment to senior orthodontic specialty training posts, to address the geographical barriers to relocating. The research has increased awareness of the emotional and psychological effects of training. It is recommended that orthodontic specialty training registrars are sign posted to how and where they can access support and should be encouraged to attend courses on stress, resilience and wellbeing.

The leaky orthodontic pipeline impacts on the recruitment of full time NHS consultants and the reasons for not becoming one are varied and often multifactorial. Some wish to work part time, to achieve a better work life balance to either support families or pursue other interests. Others wish to split their time between primary and secondary care, as a way of harnessing the benefits of both work settings and due to the uncertainties regarding the future of the NHS. The study highlights that the current shortage of NHS Consultants is in fact far greater than it would appear at face value, as more NHS Consultants are required to fill part time positions. Those in positions capable of workforce planning should act upon the information regarding the intended work patterns of the emerging workforce to ensure the needs of the population are met.

A leaky pipeline also exists for orthodontic clinical academic careers. Regardless of gender, orthodontists do not typically strive for an academic career. Dentists tend to enter orthodontic specialty training with the aim of becoming clinical orthodontists. A clinical academic career is viewed as negatively impacting upon clinical time. Therefore, the profession cannot rely on the recruitment of clinical academics from this group of

orthodontists. It is imperative that recruitment needs to occur at an earlier stage of training *e.g*. undergraduate level. In addition, there is a gross lack of awareness surrounding academic training pathways and knowledge regarding the roles of clinical academics. Awareness of academic training pathways needs to be improved amongst the entire profession, particularly those at a junior level, if there is any hope of recruiting dentists to orthodontic academia. There are signs that a leaky pipeline exists for women in clinical academia. Within this study one female Consultant expressed a desire for an academic career but reported dropping out of the pipeline due to family commitments and being unable to break through the glass ceiling. However, due to the small sample size further research is recommended.

Chapter 7: Recommendations for Future Research

The study highlights that there are still gaps in the understanding of the factors affecting a career in orthodontics. Further research may include:

1. A nationwide quantitative cross-sectional questionnaire investigating the barriers, facilitators and motivators during a career in orthodontics. The themes identified within this research could aid the development of a questionnaire. This may provide generalisable information representative of the UK that could help with the recruitment and retention of individuals to posts.
2. An important question that was identified, which warrants further research is: why are dentists not considering an orthodontic clinical academic career? A further qualitative research project into this is not only vital but pressing, considering the vital roles academics have in education, teaching and research and the current shortage of clinical academic orthodontists. It is recommended that the research would investigate this through a gendered lens, due to the literature regarding inequalities facing women in clinical academic careers. Due to the length of time to reach professorship level it is suggested that the two women in this study, that are in the early stages of an academic career are followed up over time to determine whether they face issues with vertical segregation.
3. Within this study the male StRs reported competition to ST1 posts as a barrier to a career in orthodontics. It would seem imperative to investigate the performance of women and men at orthodontic ST1 national recruitment interviews to determine whether there is a leaky pipeline for men entering the profession at this juncture.
4. This study has drawn attention to the impact undertaking orthodontic specialty training has on an StR's psychological and emotional wellbeing. It is recommended that in a novel area of research, the effects of orthodontic career progression from a mental health perspective are in investigated. It is hoped that research in this field would increase awareness of such issues and provide practical recommendations to support orthodontic StRs.
5. This study has drawn attention to the (in)equalities that exist within orthodontics from a gendered perspective. However, this has not yet been investigated with

respect to the effect of ethnicity on an orthodontic career. It is recommended that a similar qualitative research study is carried out investigating the effect of ethnicity on a career in orthodontics.

Chapter 8: References

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Appendices

Appendix I: Research Communication

Appendix I.1: National Oral Presentation

Details: Jopson, J.L. 2019. Gender and its Effect on Career Progression in Orthodontics: Investigating the Barriers and Facilitators. Gender and Education Association Conference, 2019, University of Portsmouth.

Abstract:

Orthodontics is a specialised area of dentistry, focused on the diagnosis and treatment of dental and facial problems, whilst improving aesthetics and function (Gill, 2008). Women are currently underrepresented in orthodontics. This is despite greater numbers of women being accepted on to undergraduate dental degrees (Waylen et al. 2017). To become an orthodontist, an additional three-year period of postgraduate training must be undertaken. Entry onto this pathway is highly competitive. Orthodontics offers career progression in academia and consultancy. Women are currently underrepresented in academia and there is a national shortage of NHS Orthodontic Consultants (Fisher, 2017 and Sandler, 2017). During a career, people will move along a career pipeline. If the pipeline flows, positions are adequately filled. However, there are factors that can cause a pipeline to "leak" which affects equality and diversity in the workforce.

The presentation will provide a summary of a research project currently being undertaken at the Bristol Dental Hospital. This project is part of a Doctorate in Dental Surgery, investigating the factors that influence carrier progression in orthodontics, from a gendered perspective. The research should provide explanations into gender disparities that exist within orthodontics and improve gender equality, diversity and recruitment in the workforce.

Appendix I.2: Academic Publication 1 (published)

Details: Jopson, J.L., Ireland, A.J., Sandy, J.R. and Neville, P. 2019. Why dentists should consider a career in orthodontic academia. *British Dental Journal*, **227**(8), 741-746.

Abstract:

Orthodontics, like all areas of dentistry, offers the option to pursue a career in academia. In addition to providing clinical care for patients, academic orthodontists have a role in educating dental students and the wider dental community. There is also the option to engage with and undertake research, which may advance treatment and improve patient care. There is currently a shortage of academic orthodontists in the UK, with institutions reporting difficulties in the recruitment to academic posts. This problem is not only confined to orthodontics but widespread among dentistry. As a result, there is concern regarding the long-term future of dental academia. This paper considers why this might be the case and aims to raise awareness of the shortage in dental academic staff. It will discuss some of the main reasons put forward to explain this shortage and offer information and guidance to those interested in pursuing a career as an orthodontic academic.

Appendix I.3: Academic Publication 2 (manuscript submitted)

Details: Jopson, J.L., Ireland, A.J., Fowler, P.V., Sandy, J.R. and Neville, P. Are dentists considering a career in orthodontic clinical academia? Summary of a qualitative study into the factors influencing a career in orthodontics. Manuscript submitted to the British Dental Journal.

Submitted abstract:

Introduction: There is currently a national shortage of UK dental clinical academics, with difficulties recruiting to all grades. As part of the dental workforce, academics have a vital role in teaching, research, and scholarship. It is hoped that recommendations made from this study will provide information on the recruitment and retention of academics.

Aim: To investigate the factors that influence a career in orthodontic clinical academia and highlight ways to improve recruitment and retention.

Method: A qualitative research study utilising focus group interviews. Purposive sampling was carried out to recruit participants at different stages of an orthodontic career. A total of eight, group face-to-face semi-structured interviews were conducted with 26 participants. Interviews were split by grade and gender. An inductive thematic analysis was used to generate themes.

Results: Three major themes were generated: academic career options, motivations, and barriers to pursuing a clinical academic career.

Conclusion: This paper sheds light on the current factors affecting a career in orthodontic clinical academia. Worryingly most dentists do not strive for an academic career and the barriers to an academic career are discussed. Ways of addressing some of the issues facing recruitment and retention of individuals to orthodontic clinical academia are suggested.

Appendix II: Consent Form

Consent form

What are the barriers and facilitators to choosing orthodontics as a career; does gender have an effect?

Researcher – Jen Jopson (Orthodontic Specialty Training Registrar)

Contact details – jen.jopson@bristol.ac.uk

Participant Identification Number for this focus group:

1. I confirm that I have read the participant information sheet dated..... for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my legal rights being affected. ☐
3. I understand that the information collected about me will be used to support other research in the future and may be shared anonymously with other researchers. ☐
4. I understand that the information collected from me may be used (anonymously) in published research reports. ☐
5. I understand that my voice will be audio-recorded on an encrypted audio-recorder that will be transcribed by the researcher and data stored on a University of Bristol Trust Server. ☐
6. I understand that all data about me will be kept strictly confidential and in accordance with the General Data Protection Regulations. ☐
7. I agree to take part in the above study. ☐

Participant	Date	Signature
Person consenting	Date	Signature

Appendix III: Recruitment Emails

Appendix III.1: Fourth Year Undergraduate Dental Student Recruitment Email

Dear fourth year dental students,

My name is Jen and I am one of the first year orthodontic specialty training registrars. I am currently undertaking a research project on the orthodontic profession and gender.

We know that orthodontics is the most popular dental specialty amongst undergraduate dental students and applying for specialist training is competitive. What we do not know yet, is what helps and hinders the decision to pursue a career in orthodontics and whether gender has an effect.

We are looking for fourth year dental students that are interested in pursuing a career in orthodontics to participate in focus groups.

Due to the nature of the study we will select the first six females and males that respond to this email invitation.

If you are interested in taking part, please read the attached participant invitation sheet for more information.

If you have any questions or would like to know more about the study, please feel free to contact me. Dr Neville and Professor Ireland are supervisors of this project.

It is likely that the focus groups will take place over a lunch break, refreshments will be provided.

Thank you for reading this email.

Best wishes

Jen Jopson

Email: jen.jopson@bristol.ac.uk

Appendix III.2: Orthodontic StR Recruitment Email

Dear Orthodontic Specialty Training Registrars,

My name is Jen Jopson and I am currently undertaking a research project on the orthodontic profession and gender.

We know that orthodontics is the most popular dental specialty amongst undergraduate dental students and applying for specialist training is competitive. Becoming a specialist orthodontist offers many different career options in specialist practice, secondary care and clinical academia. There is currently a national shortage of NHS Orthodontic Consultants with little sign of this changing as senior StR posts are often left unfilled. What we do not know yet, is what helps and hinders the decision to pursue a career in orthodontics, career progression and whether gender has an effect.

We are looking for male and female junior and senior StRs to participate in focus groups.

If you are interested in taking part, please read the attached participant invitation sheet for more information.

If you have any questions or would like to know more about the study, please feel free to contact me. Dr Neville and Professor Ireland are supervisors of this project.

Thank you for reading this email.

Best wishes

Jen Jopson

Email: jen.jopson@bristol.ac.uk

Appendix III.3: NHS Orthodontic Consultant and Clinical Academic Recruitment Email

Dear Orthodontic Consultants,

My name is Jen Jopson and I am currently undertaking a research project on the orthodontic profession and gender.

We know that orthodontics is the most popular dental specialty amongst undergraduate dental students and applying for specialist training is competitive. Becoming a specialist orthodontist offers many different career options in specialist practice, secondary care and academia. There is currently a national shortage of NHS Orthodontic Consultants with little sign of this changing as senior StR posts are often left unfilled. What we do not know yet, is what helps and hinders the decision to pursue a career in orthodontics, career progression and whether gender has an effect.

We are looking for male and female Orthodontic Consultants to participate in focus groups.

If you are interested in taking part, please read the attached participant invitation sheet for more information.

If you have any questions or would like to know more about the study, please feel free to contact me. Dr Neville and Professor Ireland are supervisors of this project.

Thank you for reading this email.

Best wishes

Jen Jopson

Email: jen.jopson@bristol.ac.uk

Appendix IV: Topic Guides

Appendix IV.1: Fourth Year Undergraduate Dental Student Topic Guide

Fourth year dental students will be given the opportunity to reflect on their choice of orthodontics as a career by participating in focus groups. Jen Jopson and Dr Neville will both be present during the focus groups to ensure the theme guide is followed. Jen Jopson will facilitate the focus groups and Dr Neville will act as notetaker. Data from the focus group will be audio taped onto an encrypted audio-recorder. A participant information sheet relating to the study will have been given to participants in advance of the study. This will also be read to participants prior to commencing focus groups. Participation will be voluntary and informed consent will be gained prior to commencing focus groups.

<u>Motivations to choosing orthodontics as a career</u>

1. Have you considered orthodontics as a career option?
2. Why have you considered orthodontics as a career option?
3. Has anything helped you make the decision to pursue a career in orthodontics?
    a. Mentors

<u>Barriers affecting a career in orthodontics</u>

1. Do you perceive any barriers in pursuing a career in orthodontics?
    a. Cost of training
    b. Length of training
    c. Competitive nature of recruitment

<u>Orthodontic career options</u>

1. If you became an orthodontic specialist what would you like to do next? Where would you like to work?

Appendix IV.2: Junior Orthodontic StR Topic Guide

Junior orthodontic StRs will be given the opportunity to reflect on their choice of orthodontics as a career by participating in focus groups. Jen Jopson and Dr Neville will both be present during the focus groups to ensure the theme guide is followed. Jen Jopson will facilitate the focus groups and Dr Neville will act as notetaker. Data from the focus group will be audio taped onto an encrypted audio-recorder. A participant information sheet relating to the study will have been given to participants in advance of the study. This will also be read to participants prior to commencing focus groups. Participation will be voluntary and informed consent will be gained prior to commencing focus groups.

<u>Motivations to choosing orthodontics as a career</u>

1. Why did you choose orthodontics as a career?
2. What motivated you to make this decision?

<u>Facilitators affecting a career in orthodontics</u>

1. Did anything help you decide to pursue a career in orthodontics?
    a. Mentors
    b. Self-employment
    c. Work-life balance
    d. Salary
    e. Family

<u>Orthodontic career options</u>

1. What are your future career options?
2. Would you consider senior specialty training?
3. Have you or will you consider academia as a career option?

<u>Barriers affecting a career in orthodontics</u>

1. Do you perceive any barriers in pursuing a career in orthodontics?
    a. Cost of training
    b. Length of training
    c. Competitive nature of recruitment

Appendix IV.3: Senior Orthodontic StR Topic Guide

Senior orthodontic registrars will be given the opportunity to reflect on their choice of orthodontics as a career by participating in focus groups. Jen Jopson and Dr Neville will both be present during the focus groups to ensure the theme guide is followed. Jen Jopson will facilitate the focus groups and Dr Neville will act as notetaker. Data from the focus group will be audio taped onto an encrypted audio-recorder. A participant information sheet relating to the study will have been given to participants in advance of the study. This will also be read to participants prior to commencing focus groups. Participation will be voluntary and informed consent will be gained prior to commencing focus groups.

<u>Motivations to choosing senior orthodontic registrar training.</u>

1. Why did you choose to do senior specialty registrar training? What motivated you to make this decision?

<u>Facilitators affecting a career in orthodontics</u>

1. Did anything help you decide to pursue senior registrar training?
    a. Mentors
    b. Self-employment/salaried position
    c. Work-life balance
    d. Family

<u>Orthodontic career options</u>

1. What are your future career options?
2. Where would you like to work?
3. Have you or will you consider academia as a career option?

<u>Barriers affecting a career in orthodontics</u>

1. Do you perceive any barriers in pursuing a career in orthodontics?
    a. Cost of training
    b. Length of training
    c. Competitive nature of recruitment
    d. Work-life balance
2. What do you think about the 18 months continuous training rule?

Appendix IV.4: NHS Orthodontic Consultant and Clinical Academic Topic Guide

Orthodontic Consultants will be given the opportunity to reflect on their choice of orthodontics as a career by participating in focus groups. Jen Jopson and Dr Neville will both be present during the focus groups to ensure the theme guide is followed. Jen Jopson will facilitate the focus groups and Dr Neville will act as notetaker. Data from the focus group will be audio taped onto an encrypted audio-recorder. A participant information sheet relating to the study will have been given to participants in advance of the study. This will also be read to participants prior to commencing focus groups. Participation will be voluntary and informed consent will be gained prior to commencing focus groups.

<u>Motivations to become an Orthodontic Consultant</u>

1. Why did you choose to become an Orthodontic Consultant?

2. What motivated you to make this decision?

<u>Facilitators affecting a career in orthodontics</u>

1. Did anything help you in taking this career path?
    a. Mentors
    b. Self-employment/salaried position
    c. Work-life balance
    d. Family

<u>Orthodontic career options</u>

1. Why did you/did you not consider a career in academia?

<u>Barriers affecting a career in orthodontics</u>

1. Do you perceive any barriers in pursuing a career in orthodontics and specifically senior registrar training?
    a. Cost of training
    b. Length of training
    c. Competitive nature of recruitment
    d. Work-life balance

Appendix V: Participant Information Sheets

Appendix V.1: Fourth Year Undergraduate Dental Student Participant Information Sheet

Participant Information Sheet

What are the barriers and facilitators to choosing orthodontics as a career; does gender have an effect?

Invitation to the study

You are invited to participate in a research study on the barriers and facilitators that influence a career in orthodontics and whether gender has an effect.

Please read this information sheet, which will explain why the research is being carried out and what the research will involve for you. Feel free to talk to others about the study and if there is anything that is not clear or if you are interested in participating, please contact me (jen.jopson@bristol.ac.uk).

What is the purpose of the study?

Within the literature, orthodontics is the most popular dental specialty amongst undergraduate dental students. The career pathway to become an orthodontic specialist involves acceptance on to a competitive, three year specialty training programme whilst undertaking a postgraduate degree. Research has shown that there are individual factors that can influence a career in orthodontics. There has been no research carried out on the facilitators and barriers that influence the decision to pursue a career in orthodontics, how this affects career progression or whether gender has an effect. The research may highlight changes that can be made to support individuals during career progression, specifically in areas where recruitment is difficult. It is hoped that the research will improve gender equality and recruitment within the orthodontic workforce.

Why have I been invited?

We are looking for fourth year dental students that are interested in pursuing a career in orthodontics. Due to the nature of the study we will select the first six females and males that respond to the invitation email.

Do I have to take part?

It is up to you to decide if you would like to join the research study. We will describe the study and go through this information sheet. If you agree to take part, we will then ask you to sign a consent form. You are free to withdraw at any time, without giving a reason and there will be no consequences.

What will happen to me if I take part and what will I have to do?

The research study will involve participating in focus groups and will take up approximately one hour of your time. A topic guide will be used to discuss topics during the focus groups. The focus groups will be audio recorded to ensure all data is collected. This data will be anonymous.

What are the possible disadvantages and risks of taking part?

It is not expected that there are any disadvantages or risks of taking part in the research study.

What are the possible benefits of taking part?

We cannot promise the research study will enable you to have a career in orthodontics but the information we get from this study may help improve access into orthodontic specialty training in the future.

What will happen if I do not want to carry on with the study?

You are free to withdraw from the study at any time, without giving a reason and there will be no consequences. Please let Jen Jopson, Dr Neville or Professor Ireland know if you would like to withdraw from the study. If you withdraw from the study and have already participated in the focus groups, it will not be possible to remove your voice from the tape. However, the data will not be used for the results of the study.

Will my taking part in this study be kept confidential?

All information which is collected about you, during and after the research will be kept strictly confidential. This will be in accordance with the General Data Protection Regulations.

- Your name will only be used to keep a record of those who agreed to take part in the study.

- Data will be collected on encrypted audio tapes.
- A unique study number will be allocated to the voices so that this can be transcribed onto a word document by the researcher Jen Jopson.
- Data will be stored securely on a University of Bristol Trust Server.
- Only the investigators of the study will have access to this data.
- Any data included in future publications will remain anonymous too.
- Data will be retained for 10 years and will be disposed of securely.

What will happen to the results of the research study?

The results of this study will be used as part of a thesis write up for a doctorate degree. The results may also be published within the research community via peer-review publications and conference presentations.

If you wish to know the outcome of the study, please contact Jen Jopson.

Who is organising and funding the research?

This research has been organised by Jen Jopson, Dr Neville and Professor Ireland.

Who has reviewed the study?

This study has been reviewed by the University of Bristol, Faculty of Health Ethics Committee.

Further information and contact details

Thank you for reading this participant information sheet. If you would like any further information, please contact - jen.jopson@bristol.ac.uk (Specialty Training Registrar in Orthodontics)

Appendix V.2 Orthodontic StR Participant Information Sheet

Participant Information Sheet

What are the barriers and facilitators to choosing orthodontics as a career; does gender have an effect?

Invitation to the study

You are invited to participate in a research study on the barriers and facilitators that influence a career in orthodontics and whether gender has an effect.

Please read this information sheet, which will explain why the research is being carried out and what the research will involve for you. Feel free to talk to others about the study and if there is anything that is not clear or if you are interested in participating, please contact me (jen.jopson@bristol.ac.uk).

What is the purpose of the study?

Within the literature, orthodontics is the most popular dental specialty amongst undergraduate dental students. The career pathway to become an orthodontic specialist involves acceptance on to a competitive, three year specialty training programme whilst undertaking a postgraduate degree. Research has shown that there are individual factors that can influence a career in orthodontics. There has been no research carried out on the facilitators and barriers that can influence the decision to pursue a career in orthodontics, how this affects career progression or whether gender has an effect. The research may highlight changes that can be made to support individuals during career progression, specifically in areas where recruitment is difficult. It is hoped that the research will improve gender equality and recruitment within the orthodontic workforce.

Why have I been invited?

We are looking for junior and senior orthodontic specialty training registrars to take part in this research. We would hope that there will be 4-6 people in each focus group.

Do I have to take part?

It is up to you to decide if you would like to join the research study. We will describe the study and go through this information sheet. If you agree to take part, we will then ask you

to sign a consent form. You are free to withdraw at any time, without giving a reason and there will be no consequences.

What will happen to me if I take part and what will I have to do?

The research study will involve participating in focus groups and will take up approximately one hour of your time. A topic guide will be used to discuss topics during the focus groups. The focus groups will be audio recorded to ensure all data is collected. This data will be anonymous.

What are the possible disadvantages and risks of taking part?

It is not expected that there are any disadvantages or risks of taking part in the research study.

What will happen if I don't want to carry on with the study?

You are free to withdraw from the study at any time, without giving a reason and there will be no consequences. Please let Jen Jopson, Dr Neville or Professor Ireland know if you would like to withdraw from the study. If you withdraw from the study and have already participated in the focus groups, it will not be possible to remove your voice from the tape. However, the data will not be used for the results of the study.

Will my taking part in this study be kept confidential?

All information which is collected about you during and after the research will be kept strictly confidential. This will be in accordance with the General Data Protection Regulations.

- Your name will only be used to keep a record of those who agreed to take part in the study.
- Data will be collected on encrypted audio tapes.
- A unique study number will be allocated to the voices so that this can be transcribed onto a word document by the researcher Jen Jopson.
- Data will be stored securely on a University of Bristol Trust Server.
- Only the investigators of the study will have access to this data.
- Any data included in future publications will remain anonymous too.
- Data will be retained for 10 years and will be disposed of securely.

What will happen to the results of the research study?

The results of this study will be used as part of a thesis write up for a doctorate degree. The results may also be published within the research community via peer-review publications and conference presentations.

If you wish to know the outcome of the study, please contact Jen Jopson.

Who is organising and funding the research?

This research has been organised by Jen Jopson, Dr Neville and Professor Ireland.

Who has reviewed the study?

This study has been reviewed by the University of Bristol, Faculty of Health Ethics Committee.

Further information and contact details

Thank you for reading this participant information sheet. If you would like any further information, please contact - jen.jopson@bristol.ac.uk (Specialty Training Registrar in Orthodontics)

Appendix V.3: NHS Orthodontic Consultant and Clinical Academic Participant Information Sheet

Participant Information Sheet

What are the barriers and facilitators to choosing orthodontics as a career; does gender have an effect?

Invitation to the study

You are invited to participate in a research study on the barriers and facilitators that influence a career in orthodontics and whether gender has an effect.

Please read this information sheet, which will explain why the research is being carried out and what the research will involve for you. Feel free to talk to others about the study and if there is anything that is not clear or if you are interested in participating, please contact me (jen.jopson@bristol.ac.uk).

What is the purpose of the study?

Within the literature, orthodontics is the most popular dental specialty amongst undergraduate dental students. The career pathway to become an orthodontic specialist involves acceptance on to a competitive, three year specialty training programme whilst undertaking a postgraduate degree. Research has shown that there are individual factors that can influence a career in orthodontics. There has been no research carried out on the facilitators and barriers that can influence the decision to pursue a career in orthodontics, how this affects career progression or whether gender has an effect. This research may highlight changes that can be made to support individuals during career progression, specifically in areas where recruitment is difficult. It is hoped that the research will improve gender equality and recruitment within the orthodontic workforce.

Why have I been invited?

We are looking for NHS Orthodontic Consultants and orthodontic clinical academics to take part in this research. We would hope that there will be 4-6 people in each focus group.

Do I have to take part?

It is up to you to decide if you would like to join the research study. We will describe the study and go through this information sheet. If you agree to take part, we will then ask you to sign a consent form. You are free to withdraw at any time, without giving a reason and there will be no consequences.

What will happen to me if I take part and what will I have to do?

The research study will involve participating in focus groups and will take up approximately one hour of your time. A theme guide will be used to discuss topics during the focus groups. The focus groups will be audio recorded to ensure all data is collected. This data will be anonymous.

What are the possible disadvantages and risks of taking part?

It is not expected that there are any disadvantages or risks of taking part in the research study.

What will happen if I don't want to carry on with the study?

You are free to withdraw from the study at any time, without giving a reason and there will be no consequences. Please let Jen Jopson, Dr Neville or Professor Ireland know if you would like to withdraw from the study. If you withdraw from the study and have already participated in the focus groups, it will not be possible to remove your voice from the tape. However, the data will not be used for the results of the study.

Will my taking part in this study be kept confidential?

All information which is collected about you during and after the research will be kept strictly confidential. This will be in accordance with the General Data Protection Regulations.

- Your name will only be used to keep a record of those who agreed to take part in the study.
- Data will be collected on encrypted audio tapes.
- A unique study number will be allocated to the voices so that this can be transcribed onto a word document by the researcher Jen Jopson.
- Data will be stored securely on a University of Bristol Trust Server.

- Only the investigators of the study will have access to this data.
- Any data included in future publications will remain anonymous too.
- Data will be retained for 10 years and will be disposed of securely.

What will happen to the results of the research study?

The results of this study will be used as part of a thesis write up for a doctorate degree. The results may also be published within the research community via peer-review publications and conference presentations. If you wish to know the outcome of the study, please contact Jen Jopson.

Who is organising and funding the research?

This research has been organised by Jen Jopson, Dr Neville and Professor Ireland.

Who has reviewed the study?

This study has been reviewed by the University of Bristol, Faculty of Health Ethics Committee.

Further information and contact details

Thank you for reading this participant information sheet. If you would like any further information, please contact - jen.jopson@bristol.ac.uk (Specialty Training Registrar in Orthodontics)

Appendix VI: Matrix Frameworks

Appendix VI.1: Fourth Year Undergraduate Female Dental Student Matrix Framework

Theme	Primary code	Sample quotes
Motivations to choosing orthodontics as a career	Previous orthodontic experience • Clinical experience • Teaching experience • Personal experience	DSF1: "I think it is to do with my experiences on clinic. It is more to do with planning cases and the patient genre is younger, this really attracts me." DSF1: "I really like that social side of orthodontics. I also had it myself and the whole experience was amazing, the difference from before and after, so it would be really nice to provide that for patients." DSF2: "The teaching here is really good. I know at other dental schools you don't do it, so like that would be why. Dr A when he talks about his patients and the way he loves ortho, like he was a technician before, and we have interesting conversations about physics." DSF2: "Yeah, the way we are taught here is really good and makes me more interested."
	Patient factors • Demand for treatment • Younger patient group	DSF1: "Another thing is that you only take on cooperative patients, so I feel like that in itself is a rewarding aspect of the career that you are dealing with cooperative patients as opposed to side tracking because the patients not cooperative." DSF1: "A lot of people associate dentistry with orthodontics like oh do you know how to straighten teeth then and I think it's such a common thing now, people want their teeth straight and appearance is a huge thing. I think it would be nice to contribute towards that." DSF1: "I think it is to do with my experiences on clinic. It is more to do with planning cases and the patient genre is younger, this really attracts me."

	Aspects of providing orthodontic treatment • Treatment planning	DSF1: "I think it is to do with my experiences on clinic. It is more to do with planning cases and the patient genre is younger, this really attracts me." DSF1: "I also think it is a lot to do with planning. I would really like to plan cases properly like fully understand what I'm doing." DSF1: "Also, the risks involved in orthodontics aren't as great, like in the other ones you could perforate which could lead to an extraction, whereas in orthodontics. I guess though when you don't get the coupling right and the forces right you could get into trouble, but you are constantly checking it, so I feels it's something you can keep an eye on and check without huge risks occurring."
	Perception that it is a rewarding career	DSF2: "I think it would be really rewarding because you do get those patients that are at that age when they are so self-conscious, like you're so self-conscious as a teenager and for them like, I didn't really smile really until I got my braces off." DSF1: "Another thing is that you only take on cooperative patients, so I feel like that in itself is a rewarding aspect of the career that you are dealing with cooperative patients as opposed to side tracking because the patients not cooperative."
	Personal satisfaction	DSF1: "I really like that social side of orthodontics. I also had it myself and the whole experience was amazing, the difference from before and after, so it would be really nice to provide that for patients."
	Mentors	DSF2: "The teaching here is really good. I know at other dental schools you don't do it, so like that would be why. Dr A when he talks about his patients and the way he loves ortho, like he was a technician before, and we have interesting conversations about physics." DSF1: "My sister's orthodontists was amazing so I guess it does play a part because he actually gave me work experience in that same hospital. He was amazing the way he went through it all, it really inspired me." DSF2: "I think I would say that my orthodontist at home was great at explaining, so I think that when I got in to dentistry, I felt like I knew a lot more about things because it had happened to me."

		DSF2: “My orthodontist was a woman in a practice with all woman orthodontists and like yeah, I think I wanted her life, like I looked at her and thought she had a desirable life. Her husband was a dentist in general practice downstairs, she was like I pick up the kids from school and he has to stay here because he’s working late or whatever. I think because of the age range of the patients you see, no one wants to go to the orthodontist as 8 pm, I’m like that’s fine by me, whereas adults that have work probably do need to go in the evening. Kids can kinda get out of school.”
	Work-life balance	DSF2: “One thing I didn’t say because I forgot was the lifestyle in orthodontics especially like a woman that is going to be bringing up a family, orthodontics seems like a nice 9-6 or 8 in morning if you have emergencies. My orthodontist was a woman in a practice with all woman orthodontists and like yeah, I think I wanted her life, like I looked at her and thought she had a desirable life. Her husband was a dentist in general practice downstairs, she was like I pick up the kids from school and he has to stay here because he’s working late or whatever. I think because of the age range of the patients you see, no one wants to go to the orthodontist as 8 pm, I’m like that’s fine by me, whereas adults that have work probably do need to go in the evening. Kids can kinda get out of school.” DSF1: “But the specialty itself is quite flexible. So, you could end up working in practice and if you don’t really enjoy it you could work full time as an orthodontist. If you didn’t like the full-time element you could go part time. So, any of those are flexible.”
	Physics and its association with orthodontics	DSF2: “I would say that when I was at school, one of my favourite subjects was physics so I got to dentistry and was like I really understand the principles of orthodontics and I really do get the forces and when I talk to supervisors, I do really understand the concepts. For me, if I understand something, I enjoy doing it and orthodontics clicks.” DSF2: “The teaching here is really good. I know at other dental schools you don’t do it, so like that would be why. Dr A when he talks about his patients and the way he loves ortho, like he was a technician before, and we have interesting conversations about physics.”

Perceived barriers affecting a career in orthodontics	Length of training	DSF1: "I think it's probably the thought that it is going to take another three years to specialise whereas if you take implantology, you can do a year course or even part time where orthodontics is very full on and it will depend on where I am in my life, as in if I do get married, will that play a part? Or if I have children in the future would that make it more difficult to then go into orthodontics? So that could potentially be a barrier." DSF1: "For me it really is the time it takes."
	Nature of training/recruitment • Location of training posts	DS1: "That would worry me then, location wise. I wouldn't like being really far away from where I had already settled." DSF3: "If you want to start a family and then moving around, it's stressful." JJ: "So, if for example the location and money was better in paediatric dentistry, would that sway you to choose that specialty?" DSF1: "If what I could earn in orthodontics was sufficient, I don't see why it would. It does depend on my time, like if I need to set up a family."
	Personal circumstances at the time of training	DSF1: "Orthodontics is very full on and it will depend on where I am in my life, as in if I do get married, will that play a part? Or if I have children in the future would that make it more difficult to then go into orthodontics? So that could potentially be a barrier." DSF3: "If you want to start a family and then moving around, it's stressful." DSF1: "It does depend on my time, like if I need to set up a family."
Non-determinate factors	Nature of recruitment • Competitiveness – challenge	DSF2: "I would just say that even though it's so competitive that wouldn't put me off, I would like that challenge. Having said that at the same time I would have to accept that if I didn't get in then that would be a barrier. I would be annoyed at that."
Facilitators to choosing orthodontics as a career	Comparison between the dental specialities	DSF1: "I think I would want to compare all the specialities that I'm interested in and then compare where they are location wise, how competitive they are, earnings wise."

	Senior students as facilitators	DSF2: “I think when I knew I wanted to do dentistry. I had a few friends that are older than me that were doing it, so they were a couple of years ahead. So, when I was in second year, they were in their fifth year and they were having conversations about it then but also whenever someone speaks to you about what you do, they always ask, “what do you want to do after?” and that makes you think about it.”
	Mentors	DSF2: “The teaching here is really good. I know at other dental schools you don’t do it, so like that would be why. Dr A when he talks about his patients and the way he loves ortho, like he was a technician before, and we have interesting conversations about physics.” DSF1: “My sister’s orthodontists was amazing so I guess it does play a part because he actually gave me work experience in that same hospital. He was amazing the way he went through it all, it really inspired me.” DSF2: “I think I would say that my orthodontist at home was great at explaining, so I think that when I got in to dentistry, I felt like I knew a lot more about things because it had happened to me.” DSF2: “My orthodontist was a woman in a practice with all woman orthodontists and like yeah, I think I wanted her life, like I looked at her and thought she had a desirable life. Her husband was a dentist in general practice downstairs, she was like I pick up the kids from school and he has to stay here because he’s working late or whatever. I think because of the age range of the patients you see, no one wants to go to the orthodontist as 8 pm, I’m like that’s fine by me, whereas adults that have work probably do need to go in the evening. Kids can kinda get out of school.”
Advantages of being an orthodontist	Career flexibility • Option to work in primary and secondary care	DSF2: “I think I would like to become a consultant. I don’t know why I think this is a possibility, but I would like to do orthodontics 2-3 days a week and general practice 2 days a week.” DSF1: “I think I would like to do what you said and work three days as an orthodontist and two days in general practice.”

	• Option to work part-time	DSF1: “But the specialty itself is quite flexible. So, you could end up working in practice and if you don’t really enjoy it you could work full time as an orthodontist. If you didn’t like the full-time element you could go part time. So, any of those are flexible.”
	Work-life balance	DSF2: “One thing I didn’t say because I forgot was the lifestyle in orthodontics especially like a woman that is going to be bringing up a family, orthodontics seems like a nice 9-6 or 8 in morning if you have emergencies. My orthodontist was a woman in a practice with all woman orthodontists and like yeah, I think I wanted her life, like I looked at her and thought she had a desirable life. Her husband was a dentist in general practice downstairs, she was like I pick up the kids from school and he has to stay here because he’s working late or whatever. I think because of the age range of the patients you see, no one wants to go to the orthodontist as 8 pm, I’m like that’s fine by me, whereas adults that have work probably do need to go in the evening. Kids can kinda get out of school.” DSF1: “But the specialty itself is quite flexible. So, you could end up working in practice and if you don’t really enjoy it you could work full time as an orthodontist. If you didn’t like the full-time element you could go part time. So, any of those are flexible.”
	Rewarding career	DSF1: “Another thing is that you only take on cooperative patients, so I feel like that in itself is a rewarding aspect of the career that you are dealing with cooperative patients as opposed to side tracking because the patients not cooperative.” DSF2: “I think it would be really rewarding because you do get those patients that are at that age when they are so self-conscious, like you’re so self-conscious as a teenager and for them like, I didn’t really smile really until I got my braces off.”
Career option – Primary and secondary care	Advantages	DSF2: “I think I would like to become a consultant. I don’t know why I think this is a possibility, but I would like to do orthodontics 2-3 days a week and general practice 2 days a week.”

		DSF1: “I think I would like to do what you said and work three days as an orthodontist and two days in general practice.”
Career option of secondary care	Advantages	DSF2: “So, when I said I’d like to be a consultant that is because I would enjoy the hospital environment. Like I would like to be in clinic for a bit. I like the way there is loads of other consultants that you can talk to and compare things and also in hospitals you see cases that are a massive challenge that you don’t see outside so I would really enjoy that challenge and would like to go all the way to the top.”
Career option of academia	Advantages	JJ: “Yeah so there’s also an academic component.” DSF1: “Do they still see patients?” JJ: “Yes, they can do.” DSF2: “Well that would be good.” DSF1: “Yeah.” DSF2: “Yeah, you’d be keeping up to date.”

Appendix VI.2: Fourth Year Undergraduate Male Dental Student Matrix Framework

Theme	Primary code	Sample quotes
Motivations to choosing orthodontics as a career	Previous orthodontic experience • Clinical experience • Teaching experience • Personal experience	DSM2: "I know some universities don't do a lot of orthodontic training but in Bristol we have clinics every 2 weeks, where we get to do hands on things and have tutorials and teaching about it. That's definitely influenced that." DSM1: "Because I enjoy it." DSM1: "Knowing people that have had work done throughout school and stuff and how much it affects them having it or after having it."
	Patient factors • Enthusiastic patient group	DSM1: "People come to see you because they want to see you, they don't come because they have to come, they come because they get a benefit out of it."
	Aspects of the providing orthodontic treatment • Treatment mechanics • Interesting • Treatment length	DSM2: "I think it's interesting like, we do it on clinic, obviously its enjoyable, thinking about the way that things work." DSM2: "It is good seeing the change happen over a period of time, instead of a denture where it happens instantly."
	Personal satisfaction	JJ: "So why are you considering a considering a career in orthodontics?" DSM1: "Because I enjoy it." DSM1: "I like making people feel good about themselves and happy and all that stuff so for me it fits that point."
	Mentors	DSM1: "My personal tutor is one of the Professors. […] I wasn't sure what I wanted to specialise in but then we chatted a bit and talked about things and I thought this seems a lot better, this is the one I want to do."

	Financial remuneration	DSM1: “I don’t mean to be blunt; the pay also is a big, big point that makes you want to do ortho.”
Perceived barriers affecting a career in orthodontics	Workforce demographics	DSM1: “Looking at the base course of intake and the years above and below, it feels there is a big gender change and a lot of it is female base. So, you think they are going to graduate and then they are going to specialise. It’s probably the blokes that are going to get the worse hand of it because it’s more women going into these options than men.” DSM1: “There’s more of them so it’s not as balanced in terms of gender. So, if you think further down the line and it’s not balanced in terms of gender, it’s not going to be balanced in terms of when you go to specialise and things like that which may hinder barriers and stuff because of it.” JJ: “Ok, do you feel the same?” DSM2: “Not entirely, no. I’m not sure why there are more women on the dental course.”
	Location of training posts	DSM1: “The only thing would be travel.” DSM1: “I mean the people that don’t live locally, maybe that would be a bit more expensive.”
	Lack of undergraduate orthodontic experience	DSM2: “I guess people not having had training. In a lot of other dental schools, they don’t have any training in orthodontics at all, so it might be something they haven’t considered doing.”
Advantages of being an orthodontist	Career stability and security	DSM1: “It seems to be a much more stable as a career. From what I’ve been told, being a GDP, generally is going to become harder and more options for employing technicians that are cheaper to do the same work and things like that. So, if you specialise in something you become more desirable.” DSM2: “we’re being told that you have to specialise in order to be successful.” JJ: “Where’s that come from?” DSM1: “The big dog.” JJ: “Who’s that?” DSM1: “Prof E”

		DSM2: “Also, a lot of the upper years.” DSM1: “Prof E said in his lecture on Wednesday that a therapist can do 70 % of what a dentist can do, so why do they need so many dentists. Therapists will work for cheaper. So therefore, it is better to specialise in order to keep a job.”
	Financial security	DSM1: “Financially it is a bit more beneficial to specialise in something.” DSM1: “The security of having a job, owning a business, those things help you be secure but then the pay as well helps. So, it’s doing something I enjoy but also getting paid to do it.”
	Career opportunities	DSM1: “If you specialise in something you become more desirable, so you can keep your job and it opens doors for you, owning a business and things like that.” DSM1: “It seems to be a much more stable as a career. From what I’ve been told, being a GDP, generally is going to become harder and more options for employing technicians that are cheaper to do the same work and things like that. So, if you specialise in something you become more desirable.”
Non-determinate factors	Nature of recruitment • Competitiveness – challenge	DSM2: “Well, it is supposed to be very competitive, so I guess you have to work hard whilst you are here.” DSM1: “Well, they said this was one of the most competitive courses in the country to get into and considering the number of applicants and the grades and the number of spaces, we got through this. I like the challenge.” DSM2: “I see it as something to work towards.”
	Location of training	DSM2: “I don’t really mind where I live to be honest.” DSM1: “The distance doesn’t really bother me, I think wherever I end up, if I like it there, I’ll probably stay there.”
	Length of training	DSM2: “I guess if you are working at the same time as training, it is not as big a deal then doing university again for three years.” DSM2: “It’s not like maxfac surgery where you have to do a whole other degree. That’s a full-time degree so that would be more of a barrier for that.”

	Finance of training	DSM1: “I mean I expected there to be high fees when you went to specialise in dentistry anyway. So, I don’t see that as a barrier, as most people are aware that, that is the case with any specialist qualification.”
Primary care	Career options within primary care • Owning a business	DSM1: “The opportunity to run your own business. I think that’s where we both want to end up, owning our own practice. So, working in general practice, you get the experience of being able to do it all yourself or you can set it up yourself.”
	Perception of a better work-life balance	JJ: “So, what is it about practice that you find more desirable?” DSM2: “I think it might be more relaxed. I’m not sure, but that’s the feeling I get.”
Secondary care	Advantages • Opportunity to develop skills	DSM1: “In the hospital you can develop skills and see cases you wouldn’t normally see in practice.”
	Career options within secondary care	DSM2: “I don’t think I would mind working in the hospital for a short period of time but I’m not sure it is something I would like to do long term.”
Academia as a career option	Advantages • Opportunities to teach	DSM1: “I would really like to teach. I’ve come from a family; my Dads Mum was a teacher and it was always this blood in the family.”
	Disadvantages • Additional training	DSM2: “I think I would like to go out into the world, rather than carry on training, I think I would have had enough by then.”

Appendix VI.3: Female Junior Orthodontic StR Matrix Framework

Theme	Primary code	Sample quotes
Motivations to choosing orthodontics as a career	Personal satisfaction	JRF5: "Orthodontics offers job stability and no on-calls and the satisfaction that you get from treating patients."
	Transferable skills	JRF2: "I thought it is somewhat of an easier career to take back home." JRF5: "I guess for me it's what you guys mentioned as well, but for me, in my country it is particularly needed."
	Absence of on-call commitments	JRF3: "It was an opportunity to work in a hospital environment but not do the maxfac and on-call so as a job that has loads of variety it definitely had that for me." JRF5: "Orthodontics offers job stability and no on-calls and the satisfaction that you get from treating patients." JRF2: "There are no on-calls, it's clean, there is no blood, no injections, not as much pain and it is good to have a relationship with the patient throughout the whole 2 or 3 years. You get to see a result afterwards which is nice."
	Aspects of providing orthodontic treatment • Treatment length • Type of treatment • Treatment planning	JRF2: "There are no on-calls, its clean, there is no blood, no injections, not as much pain and it is good to have a relationship with the patient throughout the whole 2 or 3 years. You get to see a result afterwards which is nice." JRF6: "I like that it is like a puzzle, so you have to think in advance before you do any kind of mechanics."
	Patient factors • Patient age • Motivated group of patients	JRF3: "You are also treating, usually a population group that want treatment, they are motivated for treatment. So, treating children I think you are kind of reaching people before they reach their adulthood and get bad habits."

	Preference over general practice	JRF1: “I chose orthodontics because I really enjoy the physics and the maths behind tooth movements. It was something that was my forte and I preferred that over general dentistry.” JRF3: “I also didn’t like working in practice, so for me it was an opportunity to work in a hospital environment but not do the maxfac and on-call so as a job that has loads of variety it definitely had that for me.” JRF1: “I didn’t like general dentistry either, so I definitely wanted to do something which wasn’t dentistry.” JRF1: “I need variety, I’ve realised this about myself, so I feel that is something I didn’t like about general dentistry, you can feel isolated and you can feel that you are in one room all the time, 24/7, so I need variety, whatever that may entail, it will be with variety.”
	Mentors • Advantages of having a mentor • Women within orthodontics	JRF3: “I’ve also seen loads of women, not just women but consultants that are orthodontists in the hospital and I respect everyone that I have met.” JRF6: “I had an idol, so before I got into dentistry, I used to look up at him and then I got into dentistry in order to get into orthodontics, so my plan was there all along.”
	Perception of orthodontists	JRF4: “Quite a lot of the orthodontic consultants seem nice and quite balanced, friendly people who seem to have a quite nice work-life balance.” JJ: “What about the balance?” JRF3: “That was a driver.” JRF2: “It is yeah. It is easier than other specialities.”
	Financial remuneration	JRF1: “I think the monetary aspect of it, is also probably a factor. I didn’t like general dentistry either, so I definitely wanted to do something which wasn’t dentistry. But I don’t know that I would have necessarily pursued the career if I didn’t think I would have some financial benefit from doing extra study, because it is 3 years out of your life where you have to concentrate on this and I think it’s difficult to have some

		aspects of your life whilst you're doing this. I would say money was a slight factor I wouldn't say it was my overwhelming factor." JRF1: I don't think money was not a motivation for me, but it wasn't my primary motivation. Like I said before it is good to know you are putting extra work in to get some remuneration at the end of it."
	Reflection of a personality type	JRF1: "I do think it is a personality type thing that's maybe drawn towards it, but I'm not too sure."
	Physics and mathematics and its association with orthodontics	JRF1: "I chose orthodontics because I really enjoy the physics and the maths behind tooth movements." JRF1: "I really the maths aspect of it and that's a real push for me if I'm being honest. That is something I like, so that was my go-to."
	Previous orthodontic experience • Clinical • Personal	JRF1: "So, I did work experience and I think getting an insight into what the job was like definitely motivated me to pursue this." JRF3: "Personal experience as well like, because I went through ortho twice, then you sort of know what it is about a bit more, don't you?"
Barriers related to career progression	Intensity of training	JRF4: "I think it is very intense training. You can't deny that there is a lot of work that impedes on evenings and weekends and that is a barrier."
	Personal sacrifices associated with undertaking specialty training • Buying a house • Getting married	JRF3: "You might not be earning as much as you would be if you were in general practice, yeah buying a house, paying for a wedding, those things are affected yeah."
	National recruitment process	JRF4: "I'll tell you what else that is really important is the recruitment process, I won't move now so it has got to be within a driveable area otherwise I won't do it."

	• Location of training process	JRF1: “I am in a district hospital and I don’t think I would necessarily want to be so far away from my family either, which is the West Midlands.” JRF3: “I think geography is a huge factor because once you get to a certain age and you’ve bought a house and maybe you’ve got children, you’re not going to pick your life up and move again, that’s just not what you’re going to do.” JRF1: “I do think that for FTTA that maybe there are so many unfilled posts because people get a bit more choosey, it is only natural.”
	Cost of training	JRF4: “I think if you compare it to other dental specialities, we have the cost of the degree, so it is very difficult with that.”
	Family considerations	JRF1: “For me in terms of the family planning, if I think about my life, it is adding on those three extra years of your life, so I know some people do it at the same time but for me, I probably want to do it after my degree and I don’t know that I would get married during this or whatever, so in terms of family planning everything is later.” JRF3: “Yeah, I think certainly these three years. If you were going to do FTTA, then for me yes that would be eating into am I going to have a baby now? Yeah so that may come up later as a barrier to doing FTTA.”
Facilitators in choosing orthodontics as a career and on career progression	Comparison between the specialities	JRF4: “For me the decision came over lots of years actually. It’s almost been a process of elimination, there were areas of dentistry that I didn’t like. It was quite a slow decision and I eventually made the decision of orthodontics and I’m really glad I did. It wasn’t something I’ve always known I wanted to do.”
	Mentors	JRF1: “I think definitely something that I’ve seen is orthodontists, like consultants are really willing to help.” JRF3: “It’s something that I’ve not experienced in other specialities, like in maxfac I would say, I’ve got this idea, and someone would go, no I don’t think so.”
	Support • Family/home	JRF4: “I think having someone who encourages you in your decision as well is really important.” JRF2: “Like support.”

	• Work place • Peer	JRF4: “Like if someone says, what a good idea, I think that would be great for you.” JJ: “Is that family support or work support?” JRF4: “Probably both. Maybe workplace more important than family. If a consultant knew you had decided to try going for orthodontics and they were an orthodontic consultant and knew it was really good for you and encouraged you and helped you, I think that would spur you on.” JRF5: “I guess for me it is more family support, because my mum is a general dentist and wanted to become an orthodontist, but she didn’t get the chance to do so, so I feel that me becoming an orthodontist really, will just make her happy and you can get really good support from her as well because of that.” JRF4: “You do have to have the family around you, so if you’re in a certain situation and someone says, yep, we’ll support you, we’ll help you out, that is important as well, whatever situation you’re in you need to have support, because it is intense and difficult.” JRF1: “I think peer support is really important as well, so not just your mentors or consultants. Within my last maxfac job there was a few of us that were going for it and a few of us became really close because you just help each other, even though its competitive you want to see everybody get into it and you can’t practise questions with consultants all the time and your peers are just really helpful in that respect. You are all going through the same thing, so you can all relate to each other, know how each other feel and I feel it was good to give back and help those that haven’t got in.” JRF3: “I guess I am very fortunate in the fact that I get a lot of support from my parents and actually if I didn’t have that support from my parents or my partner then it would be more of a barrier for me.”
Advantages of being an orthodontist	Career variety	JRF3: “I suppose it is the thought that you could do, like most of the consultants here will do a private day, or half a day, whatever and to know that, that opportunity is there so that you can work in the hospital, you can do a bit of private work and yeah to have that opportunity.”
	Working hours	JRF1: “I think the 9-5 aspect, which I know it probably going to change, but the 9-5 aspect is really good and the fact that you can be flexible, it’s useful. I am a woman

		and I know I am going to have kids, well I hope, touch wood, and I think the flexibility of it would be really good."
	Job security	JRF5: "Orthodontics offers job stability and no on-calls and the satisfaction that you get from treating patients."
	Salary	JJ: "Was the salary in orthodontics a consideration?" JRF2: "Yes." JRF3: "Do you mean the salary for these 3 years or after?" JJ: "Either." JRF4: "I suppose it is all about the long term, it's about looking ahead, you've got to." JRF1: "I definitely think with these three years it's about the long term and you're doing this to hopefully benefit yourself in the future."
Disadvantages of being an orthodontist	Length of orthodontic treatment	JRF6: "I actually think it is harder, like if I am planning to have kids later on, because my patients have to come back to see me every month and that means there will be delays for them. It is not like I am an endodontist and I have a case that will be finished in three visits max, but in orthodontics it is kind of hard to finish the patient quickly, so someone will take over or you will be delayed for your patient."
Non-determinate factors	National recruitment process	JRF3: "I have no issue with the interview process per se, I take issue with being placed anywhere in the country."
	Salary	JRF3: "I think no, finding something that you like doing 5 days a week is more important than how much you get paid for it."
	Cost of training	JRF3: "It's not so much a barrier but I'm only aware of it when I see people who I graduated with, who earn more money than I do and go on more holidays." JRF1: "Yeah definitely, people that haven't done a medical degree do more stuff. But then we wouldn't have done it if we thought it was a massive barrier."
Comparisons between medicine and dentistry	Reasons to choose dentistry over medicine	JRF1: "I am a woman and I know I am going to have kids, well I hope, touch wood, and I think the flexibility of it would be really good. However, I do think you can get that in the dental profession anyway and that was my initial driver to study dentistry over medicine, so I had thought about it at that point. So, I don't know that it was a driver towards orthodontics per se, but it was a driver towards general dentistry." JRF4: "That is true, that is a good point."

		JRF3: “I think another reason to do dentistry not medicine, is that you’re not bound over by the NHS. If you think this isn’t going to work for me anymore than you can go and do your job outside of the NHS. Whereas I think if you do medicine then essentially you are just tied down to the NHS until you reach consultant or until you reach a point where you can open your own private practice.” JRF1: “I think that is fair, definitely.”
	Research experience	JRF3: “I think as an undergraduate as well having more exposure to it as well would be better, I think that is the way of introducing it. Certainly where I went to university, I think 2/3rds of the medical students would do a masters and I think certainly the people that I lived with, you know one of them did a systematic review as an undergraduate so I’m sure it’s not like top end but you know at the same time, the more you know about things, the more you are interested in them, the more you are aware of them and would maybe carry that on. If you are in a supported position, then you will feel more comfortable asking the stupid questions because you’re like I’m just an undergrad I have no idea.” JRF1: “There’s probably loads of people who have studied dentistry that actually enjoy a bit of academia, but they’ve never been given the opportunity to show an interest.”
Future career plans	Private	JRF6: “I see myself in private, but I am thinking about having multicentres that are not inside the same country, probably internationally between two countries but mainly private.”
	NHS Consultant and private mix	JRF3: “Ideally, I think hospital consultant, private practice on the side.” JRF5: “Definitely consultancy and then teaching, hopefully on the side doing private.”
	Private and teaching	JRF2: “Government as I’m on a scholarship, then probably private practice part time and part time teaching at the university.”
	NHS Consultant and academia	JRF4: “For me I would like to have variety again. Ideally hospital consultant but also doing teaching and research if possible. But then also working only 4 days a week.”
Post CCST training and beyond	Reasons to do post CCST training	JRF4: “I want to carry on the training if possible, I just feel like I’ve been in training for so long it would be nice to just get to the top if I can.”

	• Career variety • Status • Cementation of knowledge	JRF1: “For me, it’s also about cementing my knowledge, I like to know that I know all of my stuff so having 2 extra years of training for the cementation of knowledge, for me is really important.”
	Reasons to not do post CCST training • Recruitment process • Location • Intensity of training • Family planning • Comparison with specialist practice	JRF3: “If you were going to do FTTA then for me yes that would be eating into am I going to have a baby now? Yeah so that may come up later as a barrier to doing FTTA.” JRF4: “I’ll tell you what else that is really important is the recruitment process, I won’t move now so it has got to be within a driveable area otherwise I won’t do it.” JRF1: “Yeah so, I am in a district hospital and I don’t think I would necessarily want to be so far away from my family either, which is the West Midlands.” JRF3: “I think geography is a huge factor because once you get to a certain age and you’ve bought a house and maybe you’ve got children, you’re not going to pick your life up and move again, that’s just not what you’re going to do.” JRF1: “I do think that for FTTA that maybe there are so many unfilled posts because people get a bit more choosey, it is only natural.” JRF3: “Definitely and when the other option is to go and work in practice, it is not a bad option.” JRF1: “Exactly, it is a decent option.” JRF3: “Geography. I think they should have more run through posts.” JRF1: “I think more people would do it.” JRF3: “I think more people would certainly sign up to do the run through posts, so where we are doing a 3-year course instead you sign up to do 5 years right from the beginning so there’s no, get to the end of 3 years, reapply to do another 2 years, so it’s just 5 years all the way through. Which is how restorative works.” JRF1: “I think that is where the financial aspect comes in as well, you’ve graduated with your peers and your peers are earning £50,000 more than you, so I think that’s where potentially you could find a barrier, because it is geography and finance at that

		point. Like you said at that point in your life you may be thinking about different things and if you still haven't got a house by that time."
	Unfilled post CCST training and consultant posts	JRF1: "I do think that for FTTA that maybe there are so many unfilled posts because people get a bit more choosey, it is only natural." JRF3: "I think maybe for the initial stage, the first three years, then maybe national recruitment and just getting placed is maybe ok because there is so many jobs and they fill them but yeah for FTTA they've got to rethink it. Maybe it would be better to go back to regional for FTTA."
Specialist practice	Owning a practice	JRF2: "You can open a practice, by yourself if you are an orthodontist, it's easy, but that is not the thing that pushed me into it."
Secondary care	Dental hospital	JRF3: "I'm not too keen on being in a dental hospital and teaching I find the system too big. In the dental hospital there are too many hoops to jump through to get anything sorted."
Academia	Majority are not interested	JJ: "Have any of you considered academia as a career option?" JRF3: "I considered it, then I decided against it." JRF1: "Yeah, I considered it then decided against it too." JRF6: "Not currently no." JRF2: "I might like to work part time in the university to overlook or shadow the students clinically, but only the clinical part, not the teaching part." JRF6: "I prefer the clinical aspect, dealing with patients directly."
	Advantages	JRF4: "Variety again, you have got such a varied week, which I really like. I really enjoy the research and that is probably lucky because I have come from a research background."
	Disadvantages	JRF1: "The experience of going through ethical approval and jumping through all of those hoops I've found tough previously and I don't know that it is necessarily my cup of tea."
	Career options • Teaching • Clinical supervising	JRF1: "I quite like the idea of teaching and I like the idea of doing something that is just not being in a single surgery all day but that's because I like doing different things." JRF2: "I might like to work part time in the university to overlook or shadow the students clinically, but only the clinical part, not the teaching part."

	Awareness of academic career pathways • Majority was not aware of academic training pathways	JJ: “Do you know, how you would pursue a career in academia?” JRF1: “No, I would ask JRF4 or one of the professors. Off the top of my head I don't know yet.” JRF2: “What do you mean?” JJ: “Like, how would you become a professor, like what is the career pathway?” JRF2: “I have no idea.” JRF6: “I don’t know.” JRF3: “I would have thought it was like what JRF4 has done and what Julie has done so you are not necessarily an NHS employee, you’re a university employee. Is that right?” JJ: “Do you know JRF5?” JRF5: “Not for this country no.” JRF1: “I definitely don’t think there is a lot of awareness around it, like I didn’t know there was going to be an academic trainee with us, I didn’t even know that was a thing, so I think there is a lack of awareness.” JRF1: “There’s probably loads of people who have studied dentistry that actually enjoy a bit of academia, but they’ve never been given the opportunity to show an interest.” JRF3: “I think as an undergraduate as well having more exposure to it as well would be better, I think that is the way of introducing it. Certainly where I went to university, I think 2/3rds of the medical students would do a masters and I think certainly the people that I lived with, you know one of them did a systematic review as an undergraduate so I’m sure it’s not like top end but you know at the same time, the more you know about things, the more you are interested in them, the more you are aware of them and would maybe carry that on. If you are in a supported position, then you will feel more comfortable asking the stupid questions because you’re like I’m just an undergrad I have no idea.”
Emotional motifs	Training process is not accommodating to women	JRF4: “I came into orthodontics a bit later because I had done other things, so I am not going to hang around and wait. This is what has happened to me and I feel like I am just going to have to cope with it, but you know it’ll be fine, I’m sure.” JRF3: “I think that probably treading on egg shells, Bristol, the system for trainees maybe, they need to think about people who do want to have children and making the course work around them. I don’t think it is up to date with the modern era. It is

		not up to date, it hasn't moved forward, in terms of allowing you to have maternity leave." JRF4: "Yeah, I mean I feel that I am fitting into a system and I am happy to do that, but I don't know how I would feel if it was my first baby, I think I would feel quite different."

Appendix VI.4: Male Junior Orthodontic StR Matrix Framework

Theme	Primary code	Sample quotes
Motivations to choosing a career in orthodontics	Personal satisfaction	JRM2: "Working with motivated patients that actually want to be there, rather than have to be there. It makes a big difference to the working day. Our patients are generally happy to be there, grateful at the end. I think they are happier than the average dental patient."
	Absence of on call commitments	JRM1: "I was keen to have a job as well where it affected my home life as little as possible and I lost sleep as little sleep as possible." JRM3: "I'm glad I picked this, no on-calls."
	Aspects of providing orthodontic treatment • New technologies	JRM3: "There is also new technology coming out all of the time, which is quite nice, so you can try out new things."
	Patient factors • Age of patients • Motivated group of patients	JRM1: "I liked the idea of working with the age group 8-18 and the idea of combining dentistry with physics and engineering." JRM2: "Working with motivated patients that actually want to be there, rather than have to be there. It makes a big difference to the working day. Our patients are generally happy to be there, grateful at the end. I think they are happier than the average dental patient."
	Career longevity	JRM1: "I wanted a career that I felt that I could carry on into old age if I wanted to and I felt that orthodontics would provide that much more than say endo just looking down a microscope all day or maxfacs really."
	Mentors	JRM2: "In my VT practice there was a specialty orthodontist and she had been a dentist for 15 years prior to that and she always said she hated being a dentist and that orthodontics was the best thing she had ever done. That sort of pushed me to look into it a bit more."

	Perception of orthodontists • Enjoyment of career • Work-life balance	JRM1: "I was inspired by a consultant and a specialist, they both just seemed like they really enjoyed their jobs, quite relaxed and they wholeheartedly and genuinely seemed to promote it as a specialty." JRM2: "I don't think you ever meet an orthodontist that regrets their decision to do it or is miserable, everyone seems quite happy." JRM3: "The orthodontists I've met have a really good work-lifebalance."
	Financial remuneration • Salary	JJ: "Were there any other motivating factors that helped you make the decision?" JRM2: "To some degree finance. I know that for the first part of training you are investing with time and lower wages knowing that in the future the wages are generally better than the average dentist, so that has some impact, I would have probably struggled to choose it if the pay was less than the average dentist. It actually is such a financial investment over a period of I suppose since I left dental school and then VT it would probably be like 6 years since leaving VT and becoming a specialist. It's a long time on lower wages, working a lot harder than I would in practice so to some degree money is a motivating factor." JRM3: "Actually, with the large academic component as well, when you're actually doing all of this work, it is nice to know that there is light at the end of the tunnel if there wasn't one, I think I would be less motivated."
	Enjoyment of physics and engineering and its association with orthodontics	JRM1: "I liked the idea of working with the age group 8-18 and the idea of combining dentistry with physics and engineering."
	Orthodontic experience • Previous clinical experience • Lack of previous orthodontic	JRM3: "I did a GPT placement and an ortho job and I quite enjoyed it and thought I quite fancied doing a lot more of this." JRM3: "In my maxfac job I saw how good the results were in ortho and how happy the patients were about it."

	experience	JRM3: “I’d never done ortho in university. I had never put a bracket on, so for me when I came out of university it was a fresh slate to try ortho, so it was a pleasant change to see that people are really appreciative of dentistry.”
Barriers related to career progression	Personal sacrifices associated with training • Buying a house	JRM1: “I think it does add significant difficulties in terms of getting a mortgage as well. I’ll be mid-30s, it just slows everything down in terms of progressing with life.”
	National recruitment process • Location • Salary • Finances	JJ: “We have spoken lots about the facilitators in a career in orthodontics, what do you think are the barriers?” JRM2: “Not anymore but I do think it was the risk of not getting a place is the real barrier. You are investing a lot, you are moving around the country, taking a lower salary, you’re doing a DCT job you don’t necessarily like, you’re doing maxfac which is outside of most dentist’s comfort zone. So, I think that’s the risk and its playing a game, are you going to get in? How many times do you do it? Like I got in the second time, the first time around when I didn’t get a job, I thought how many more times can I try? So that for me was the biggest barrier. I think once you are on the course, employment prospects are good. Everyone finishes, you know even if you fail once which most people don’t, but if you do you can retake, and everyone passes by the time because we’re well prepared. I think once you’re here there aren’t any barriers after this point. JRM3: “Location is probably the one. They are normally in odd places where nobody wants to go and by that point most people, if you’d done the bare minimum that you’ve needed to do by the time you’ve got there, you’d be 29. In our cohort I’d say 60 % of us are with partners that we’re probably going to end up settling with or that we already have and I think at that point it’s mean to make your partner move half way across the country for something which maybe you don’t really have to do anymore.” JRM2: “I think the salary is probably quite a big one. To be honest the salaries are vastly different between FTTA salary and any job in practice.”

		JRM2: "I've had enough of moving, I don't want to move again, a massive factor is actually not wanting to move again."
	Secondary care setting	JRM1: "I think all my exposure as a kid or running up to university was in practice and I always had positive experiences. Whenever I went to hospitals it was to see sick relatives so just the association I made."
	Intensity of training	JRM2: "I think after three years here we're reasonably tired from a work perspective." JRM2: "And then after that it's all probably fatigue, it's all quite intense after MOrth and the DDS. So, I think by then a lot of people have probably had enough."
	NHS Contract • Working hours • Work-life balance	JRM3: "The orthodontists I've met have a really good work-lifebalance." JRM2: "Yeah, I suppose I could see it potentially getting a bit worse with the new contract it contains provision for having to work non-standard hours like, work late, work early and work weekends and things like that." JRM3: "I think with the new therapist model you might be able to outsource some of your work, maybe subcontract it. I don't know I think there is a lot of scope for opportunities as well as the sadness that comes with the bad contract that is coming."
	Finances	JRM2: "Lots of us will be at the age where we would like children and then you're going to inevitably reduce down to nearly one salary. Even if it's just for a bit, it's still like a year of one salary and the FTTA salary whilst it's still pretty good when compared to the national salary. I suppose we've become conditioned within the dental world to think about different pay scales rather than average pay scales." JRM3: "It's incomparable to practice salary."
	Exams – MOrth	JRM3: "The exit exams are the only barrier left really."
	Family considerations	JRM3: "I think at that point it's mean to make your partner move half way across the country for something which maybe you don't really have to do anymore." JRM2: "It's also having a supportive partner at home, I have a wife, she's moved, and she's had to quit her job in general practice every time I get a new job and that's a massive thing. I wouldn't have left her to pursue my career but if she hadn't moved, I would have had to rethink my options. Also, she earns more than me and that is quite

		useful because the financial burden of this is quite high so having someone at home who can support financially as well as move is very beneficial for me." JRM1: "I would second that definitely. I would say that is my biggest barrier, if my wife hadn't been interested in moving or had said she wouldn't move or then made it feel difficult then I may have not followed the route or followed it and then felt guilty and unmotivated." JRM2: "There's the thought that I might do FTTA just so that I've got options at the end and then choose to do a bit of both. Finances is the restricting part partly; in that we have a relatively low salary for FTTA compared to going into practice. You could probably earn two or three times without too much trouble. So, I think that's the difficult part and I know it's partly down to a family consideration, I have a wife and she's supported me through all of this when do I stop putting her through the mill?"
Facilitators in choosing orthodontics as a career and on career progression	Mentors	JRM3: "So there was a consultant in Cardiff who was really good. Whilst I was doing my ortho job he showed me what the prospects are of different treatments, what they entail, and how much of a difference they make. He showed me a lot of his cases which really interested me. He got me involved in audits, a publication in the clinical effectiveness bulletin. Little things pushed me towards this angle rather than me just going for it myself, people tried to push me in this direction." JRM1: "I think it was in second year when I saw some of the practice-based specialists and I used those opportunities to learn as much as I could about ortho and practice. I thought they were really useful in helping my decision." JRM2: "All the consultants here are all very positive, they all push FTTA and push consultant training and you can tell they are genuine because they like their jobs, they talk about the positives of their jobs, not just because they want bums on seats. They are all positive, but they can see the negative sides as well."
	Support • Partner	JRM2: "It's also having a supportive partner at home, I have a wife, she's moved, and she's had to quit her job in general practice every time I get a new job and that's a massive thing. I wouldn't have left her to pursue my career but if she hadn't moved, I would have had to rethink my options. Also, she earns more than me and that is quite

		useful because the financial burden of this is quite high so having someone at home who can support financially as well as move is very beneficial for me." JRM1: "I would second that definitely. I would say that is my biggest barrier, if my wife hadn't been interested in moving or had said she wouldn't move or then made it feel difficult then I may have not followed the route or followed it and then felt guilty and unmotivated." JRM3: "I'm luckily that my fiancé is happy to move even though she's in her dream job."
	Comparison between specialities	JRM1: "I've always liked the idea of working in practice and never really planned on working in the hospital. So, I feel like orthodontics as a specialty is the most accustomed to that. A lot of other specialities are mainly hospital based." JRM3: "I was doing jobs that I did enjoy, and it was picking between a couple of different specialities mainly between this and maxfac and I'm glad I picked this, no on-calls."
Advantages of being an orthodontist	Option to be self-employed	JRM3: "It's nice that you can do business unlike with maxfacs. I like the idea of doing the business element of it as well."
	Career variety • "Split week"	JRM3: "It's actually geared into a split week as well which is pleasant so if you did ever want to do consultant training you could do a couple of days in the hospital and a few days outside or a couple of days, couple of days, and have a day off." JRM2: "For me it's not about being rich or earning really well, it's about being able to choose, like I can have a bit more flexibility and freedom if I earn well. You get more control over your work and probably choose to work less because I think after three years here, we're reasonably tired from a work perspective." JRM3: "Everyone does seem to push me into doing a split week though, all of my consultants are very much for the golden numbers, 3 and 2, 3 practice, 2 hospital sessions. They say that's the golden way to do it, to have a happy life."
	Salary to improve work-life balance	JJ: "So, the benefits of the salary was to improve your work-lifebalance?" JRM2 and 3: "Agree."

		JRM1: “and to potentially try other things with your time rather than just being stuck doing the same thing your whole life, to experience more things whether that be job wise or hobby wise.” JRM2: “For me it’s not about being rich or earning really well, it’s about being able to choose, like I can have a bit more flexibility and freedom if I earn well. You get more control over your work and probably choose to work less because I think after three years here, we’re reasonably tired from a work perspective.”
Non-determinate factors	Starting a family	JRM2: “Also, being male I think you have a bit more flexibility, we’re lucky in that respect. Like you could have a baby whilst you are here and come back to work quite quickly, it just generally makes life a bit easier.”
	Length of training • Post CCST	JJ: “Do you have any thoughts on the length of training to become a consultant?” JRM3: “I think 2 years is quite reasonable to be honest, so I think that’s fair enough.” JRM1: “Yeah, I don’t see that as a barrier at all.”
Comparisons between orthodontics and maxillofacial surgery	Reasons to choose orthodontics over maxillofacial surgery • Working hours • Work-life balance • Family considerations	JRM3: “It’s nice that you can do business unlike with maxfacs. I like the idea of doing the business element of it as well.” JJ: “Did having a family impact on your decision to pursue a career in orthodontics?” JRM3: “Massively. It does work quite nicely together, I think. If you compare this to maxfacs for example, I think maxfacs is the complete opposite in terms of being able to have a family. Having worked in a maxfacs job the hours can be substantially more, its less lucrative in terms of unless you’re really putting in your hours, I think you don’t spend a lot of time with your family as well because you’re in and out, or asleep at times when people are socially awake, so I think this is a nicer option in comparison to that.” JRM1: “I was keen to have a job as well where it affected my home life as little as possible and I lost sleep as little sleep as possible.”

Future career plans	Part-time working • Co-parenting	JRM2: "My wife is in practice and I see a time where we can both do part time work and sharing a bit of child care which would be nice so that aspect of specialist practice is attractive."
	Specialist practice	JRM1: "I've always liked the idea of working in practice and never really planned on working in the hospital." JRM1: "Yeah, I think I'm at the moment swaying more towards specialist practice and I think the decision for me then is to be an associate or buy in to a practice. I think buying into a practice means you're not necessarily giving half your salary to somebody else, but it also restricts where you are located like if you are going to be working in another practice as well. There's pluses and minuses. On that side of things, I'm definitely 50:50."
	Working abroad	JRM3: "I think there's also options to go abroad if you're an orthodontist. Australia has got doors wide open for us and I wouldn't mind a couple of years abroad getting some sunshine and then coming back."
	Providing NHS and private treatment • "Split week"	JRM3: "I'd go split week, even if I did do FTTA I'd still choose a split week afterwards. I wouldn't ever do full time as a consultant." JRM2: "Same as me."
	Post-CCST training vs specialist practice • Choices	JRM2: "For me I'll have the decision to make between doing FTTA and choosing practice which I think at this point is very difficult to decide because I have only experienced hospital orthodontics. I don't know what my life would be like as a specialist practitioner. There's the thought that I might do FTTA just so that I've got options at the end and then choose to do a bit of both. Finances is the restricting part partly; in that we have a relatively low salary for FTTA compared to going into practice. You could probably earn two or three times without too much trouble. So, I think that's the difficult part and I know it's partly down to a family consideration, I have a wife and she's supported me through all of this when do I stop putting her through the mill?"

		JRM2: “A big consideration for me will be location. If I apply for FTTA training, if I don’t have to move house I’m much more likely to do it. I’ve moved house or location every year since I qualified really, and my wife has a job she likes and there will be family and things to consider by then and that will actually be the biggest consideration whether I have to move. I’ll take a job closer to home more likely.”
	Academia	JRM1: “I think some of my interests in academia come from the fact that I like writing and I really like teaching, but I think you can do teaching without academia. So, while I have an interest it’s not 100 percent.” JRM3: “Yeah, I fancy teaching more than I fancy doing research.”
Post CCST training and beyond	Reasons to do post CCST training • Variety • Career options	JRM2: “I think in future orthodontics it might be a good way to hedge your bets and do it that way. The uncertainty around NHS orthodontics is something that may influence my decision to do both, so that I can cover my bases.”
	Reasons to not do post CCST training • Finances • Location • Family considerations	JRM2: “For me I’ll have the decision to make between doing FTTA and choosing practice which I think at this point is very difficult to decide because I have only experienced hospital orthodontics. I don’t know what my life would be like as a specialist practitioner. There’s the thought that I might do FTTA just so that I’ve got options at the end and then choose to do a bit of both. Finances is the restricting part partly; in that we have a relatively low salary for FTTA compared to going into practice. You could probably earn two or three times without too much trouble. So, I think that’s the difficult part and I know it’s partly down to a family consideration, I have a wife and she’s supported me through all of this when do I stop putting her through the mill?” JRM2: “A big consideration for me will be location. If I apply for FTTA training, if I don’t have to move house I’m much more likely to do it. I’ve moved house or location every year since I qualified really, and my wife has a job she likes and there will be family and things to consider by then and that will actually be the biggest consideration whether I have to move. I’ll take a job closer to home more likely.”

		JRM1: “I think for me one of the main reasons why I wouldn’t go for FTTA is the restriction on location, both in terms of initial training and then later jobs. Location for me plays a big part in my decision.” JRM2: “I think the salary is probably quite a big one. To be honest the salaries are vastly different between FTTA salary and any job in practice.” JRM3: “You can’t get a mortgage on this, well not for a place in London.” JRM2: “Lots of us will be at the age where we would like children and then you’re going to inevitably reduce down to nearly one salary. Even if it’s just for a bit, it’s still like a year of one salary and the FTTA salary whilst it’s still pretty good when compared to the national salary. I suppose we’ve become conditioned within the dental world to think about different pay scales rather than average pay scales.” JRM3: “I’m curious though that you’d end up doing all of this stuff, doing FTTA and then you don’t have a paid job for you where you really want it. Then again, you’ve got the same issue of location and you’ve just wasted two years further. Which in terms of raw monetary ways would be a fair chunk of loss of income and all the time and effort and all those other resources that you can’t price.”
Specialist practice	Owning a practice	JRM3: “I like the idea of doing the business element of it as well.” JRM1: “I think buying into a practice means you’re not necessarily giving half your salary to somebody else.”
	Primary care vs secondary care	JRM1: “I’ve always liked the idea of working in practice and never really planned on working in the hospital. So, I feel like orthodontics as a specialty is the most accustomed to that. A lot of other specialities are mainly hospital based.”
	Advantages • Flexibility • Working hours	JRM2: “I suppose practice is just a little bit more flexible than hospital, you can find a job to suit your hours, choose your days, not necessarily work five days a week it depends.”

	• Work-life balance • Location • Commute	JRM1: “There’s more locations available as well so if you are thinking about where you are going to live, the commute that sort of thing.”
Academia	Disadvantages/reasons not to do it	JRM2: “The entire reason why I went into orthodontics is because it’s clinical. I do enjoy the academic aspects of the course but the academic part for me is the theory behind why I’m doing the clinical work and the bit of the job that I enjoy is the clinical work. I don’t enjoy academic work for academic works sake. My least favourite part of anything is writing.” JRM3: “From what I gauge, I think the academic work wherever you do an academic post is somewhat prescribed to you and I think if I have little say in it then I’d struggle with it. I’m happy with where I’m at.”
	Majority are not interested	JJ: “Have you or will you consider academia as a career option?” JRM2: “No.” JRM3: “No.”
	Career options • Teaching	JRM1: “I think some of my interests in academia come from the fact that I like writing and I really like teaching, but I think you can do teaching without academia. So, while I have an interest it’s not 100 percent.” JRM3: “Yeah, I fancy teaching more than I fancy doing research.”
	Awareness of academic career pathways • Majority was not aware of academic training pathways	JJ: “Are you clear on the pathway?” JRM3: “I’m unclear.” JRM2: “Not clear.” JRM1: “I wouldn’t be able to give you the exact pathway.”

Appendix VI.5: Female Senior Orthodontic StR Matrix Framework

Theme	Primary code	Sample quotes
Motivations to choosing Post CCST training	Additional experience • Clinically • Academically	SRF1: "I wanted more experience clinically and I felt that it would keep my options open going forward. You can work in practice you can work in a hospital. By stopping at the end of the 3 years it would have restricted my options." SRF3: "I decided to do it because I knew there was more to learn and if I'd left and not continued with my training, I would have felt that I would have left half way. That's what it would have felt like to me. If there was more to learn I wanted to learn it all."
	Career variation	SRF2: "I wanted to carry on in all three strands of orthodontics. I wanted to do some more research, some more training and also some teaching. So, doing the pathway I chose which was the academic clinical lecturer pathway allowed me to keep all of those options open, so yeah it was to give myself more choices really."
	Widen career options	SRF1: "I wanted more experience clinically and I felt that it would keep my options open going forward. You can work in practice you can work in a hospital. By stopping at the end of the 3 years it would have restricted my options." SRF2: "I wanted to carry on in all three strands of orthodontics. I wanted to do some more research, some more training and also some teaching. So, doing the pathway I chose which was the academic clinical lecturer pathway allowed me to keep all of those options open, so yeah it was to give myself more choices really."
	Uncertainty within the NHS	SRF3: "It keeps your options open for the future as well, especially with the climate and that things keep chopping and changing all the time, at least there's a bit more security for the future."
	Reflection of a personality type	SRF3: "I am a lot more confident now because I am seeing more complex cases so I feel things will be easier. If someone said there's another 2 more years, there's another training pathway for 2 more years, I think it's the type of personality that we have, I probably would have done that as well." SRF2: "I would have done that too, you're right, we're a bit nuts aren't we. Bring it on, let's do it."

Barriers when applying for Post CCST training	Personal circumstances	JJ: "So why do you think that people are not applying for Post CCST?" SRF1: "Because of pay, the fact you have to do more exams at the end of it, some people want to start a family, you kind of have to sometimes move because of where you are studying, you might have to relocate for post-CCST. Most people don't want to relocate either."
	Hospital environment	SRF3: "I think some people don't apply because they just don't want to work in the hospital. They say that they don't see themselves working in a hospital, so they don't see the point in doing the Consultant training. Unless you see the value in learning more or improving skills but doing 2 years of this just to improve skills, you probably don't want to do that."
	Mentors – Consultants	SRF2: "I think the consultants themselves sometimes don't make you feel that the job is that great. You think to yourself I am putting all this effort in and I am going to try and be a consultant and then if you have a consultant then say, this is all awful and it was so much better 20 years ago, it's so difficult. Those are the people that you think, why am I doing this again?"
	Comparison to peers	SRF2: "You see colleagues having a much more balanced life by not doing this training." SRF3: "I think there are people that are in practice that do have a better work-lifebalance. We graduated years and years ago and we are still doing work, it's a bit like being at university, isn't it, they can continue their lives, go on holidays."
	Finances • Earning potential in specialist practice • Salary during Post-CCST	SRF3: "I do find that with my peers, there were some that if they were in relationships that they felt like they needed more pay to continue what they were doing, like getting a house, having a family, stuff like that. There was a clear case that the single people continued training and the ones that probably needed more money felt like they needed to go into practice there and then. So, it seems like it plays a factor, but I don't know if that would have made a difference to me if I had been with someone at the time, I don't know, I probably would have still done this I reckon." SRF3: "It is really funny when you talk to people that have nothing to do with dentistry. So, speaking to my mum, she said, so what happens then, are you going to get paid more when you do this exam? No Mum I'm going to get paid less than if I

		stopped training a few years ago. So she wonders why I'm doing it because people normally assume that if you get paid more it's because you are in a better job and you're more qualified, they don't understand that you can be more qualified yet get paid less, so I can understand why other people think that who aren't in this world." SRF1: "How do you make it better? The ISFE exams, the timing of recruitment, the stage when it happens, the pay, probably the ability to be part-time. I think the major things are the timing of recruitment and the pay. The exams are hard, but I think if the pay and the time of recruitment was right, people would do it."
	Family planning	JJ: "So why do you think that people are not applying for Post CCST?" SRF1: "Because of pay, the fact you have to do more exams at the end of it, some people want to start a family, you kind of have to sometimes move because of where you are studying, you might have to relocate for post-CCST. Most people don't want to relocate either."
	Fatigue	SRF3: "Maybe one of the things that prevents people from applying to post CCST because it is 2 years more training and even though you are continuing what you're doing, the stakes are just so much higher. We're older, we've been doing this for a long time, its fatigue, fatigue starts to set in, it's really difficult. You need to be able to keep track of your mind as well and stay on track, that's really hard and I think it gets a bit, I'm not really sure if anyone else agrees but I find that it gets really lonely when you're doing this."
	Exams – ISFE	SRF1: "The exams and applying for jobs at the end of post CCST, they are not the easiest of things and so sometimes it actually puts you off, so I'm doing this but thinking do I actually want to apply for a consultant job? The interview just seems so difficult and it seems so much easier to go into practice. They haven't made, what's the word, the two pathways similar, one is a lot easier, or appears a lot easier than the other and the other one seems like you're up against a brick wall and you're trying to get through it."
	Timing of post CCST training applications	SRF1: "Two weeks after MOrth you have to apply, finishing applying and you are so emotionally and mentally drained, sit and do an application form and then 4 weeks after that you have the interview. Which is why I said before, I just turned up to the interview because I didn't prepare, but I thought if I get the job, I get it, if I don't, I'm

		so mentally drained that I don't care if I don't get it. I don't know whether they should move the application later on and you start post CCST in January instead, rather than October and then the interviews could be a bit later on and people have a month, 2 months to just take a breather and then apply." SRF2: "What I think we are actually missing here is just a bit of time to consolidate before you then go on to the next hurdle. I think your approach of saying let's do it in January, but you finish your patients off with just looking after them and having 6 months just to be normal before you start again, actually might be helpful, just a thought."
	Location of training posts	JJ: "So why do you think that people are not applying for Post CCST?" SRF1: "Because of pay, the fact you have to do more exams at the end of it, some people want to start a family, you kind of have to sometimes move because of where you are studying, you might have to relocate for post-CCST. Most people don't want to relocate either."
	Length of training	SRF3: "Maybe one of the things that prevents people from applying to post CCST because it is 2 years more training and even though you are continuing what you're doing, the stakes are just so much higher. We're older, we've been doing this for a long time, its fatigue, fatigue starts to set in, it's really difficult. You need to be able to keep track of your mind as well and stay on track, that's really hard and I think it gets a bit, I'm not really sure if anyone else agrees but I find that it gets really lonely when you're doing this."
	Work-life balance	SRF3: "I think there are people that are in practice that do have a better work-lifebalance. We graduated years and years ago and we are still doing work, it's a bit like being at university, isn't it, they can continue their lives, go on holidays." SRF3: "I've got my exam coming up and I don't feel that I can go out and see friends because I'm definitely not going to do any work, so you just stay in and you're in isolation really, because you need to be in isolation to study and it is for such a long time as well. It's been years and years now, so maybe it does have an effect on certain people. I can see that is a deterrent."

		SRF2: “You see colleagues having a much more balanced life by not doing this training.”
Facilitators in applying for Post CCST training	Support • Work place	SRF2: “I think I was encouraged to apply by several different people within either the university or within the hospital, so I felt that I was sort of in the right place to go for it. It was nice to know that I was successful at the interview. Although I had a position, I still had to attend the national programme, so it was nice to know that I got in to do that anyway.”
	Mentors	SRF2: “I think having the right mentors around you, can certainly influence your decision at that stage. I think within our hospital environment we have a lot of people that are predominantly hospital based so I think they said this is the job that they do, with maybe one day in practice and you can still mix it.”
	Success at interviews	SRF1: “Well I applied for the interview, went to the interview, thought if I get it I get it, if I don’t get it, I don’t get it, but I got it, so I’m here so that was a factor that pushed me into because I got the job.” SRF2: “I was encouraged to apply and by several different people within either the university or within the hospital, so I felt that I was sort of in the right place to go for it. It was nice to know that I was successful at the interview. Although I had a position, I still had to attend the national programme, so it was nice to know that I got in to do that anyway.” SRF1: “Yeah, I would say it is, I have no problems with national recruitment. I don’t think I should say this, but it is probably less competitive to get a senior reg post then it is to get a ST1 job because not that many people apply.”
	Personal circumstances	SRF3: “With quite a few registrars that I was training with, one of the factors that played a part was if they were ready to start a family and because I was by myself, I wasn’t really in a rush to start a family or anything like that. I felt that I had been training for all this time I can easily carry on because it isn’t a change of lifestyle, carry on learning, so I continued. I think it did help not having anything else going on.” SRF1: “With regards to a family and stuff, there was no one there to think I’m ready to have kids or maybe I’m not ready to do this. I didn’t think it was going to happen in the next 2 years, so I thought I might as well do this in the 2 years.”

	Continuation of lifestyle • Finances • Education	SRF3: "With quite a few registrars that I was training with, one of the factors that played a part was if they were ready to start a family and because I was by myself, I wasn't really in a rush to start a family or anything like that. I felt that I had been training for all this time I can easily carry on because it isn't a change of lifestyle, carry on learning, so I continued. I think it did help not having anything else going on." SRF1: "I felt that it was harder to go into practice and I didn't want to think 5 years down the line, actually I want to be a consultant and take a pay cut then, whereas at the moment I haven't taken a pay cut." SRF3: "You do get paid more in practice, but because I wasn't going to get paid more anyway, it was easy to continue."
Post CCST training pathways	Length of training	SRF3: "I think that the way it is competitive is needed and the length of training again is needed. I think you do need that length of time to learn things properly and also, I think it takes away the people that are only interested in doing it for money or any other reason they are. I think for the people that really want to do it will come through, you hope."
	Nature of national recruitment • Competitiveness • Transparency	SRF3: "I think that the way it is competitive is needed and the length of training again is needed. I think you do need that length of time to learn things properly and also, I think it takes away the people that are only interested in doing it for money or any other reason they are. I think for the people that really want to do it will come through, you hope." SRF1: "I think that the recruitment process is difficult, but I think it is a fair way. I think that it is better than it was 15 years ago when you had to go to different units to apply." SRF2: "I think the national recruitment process is a bit of a red herring here about the number of people that are applying for training. I think that it has been talked about, like is it the recruitment process that is putting people off? I don't think so, no. I think we are used to having fair processes now and I think it's normal isn't it that you go for these things and you get points and that's how it is."

		SRF1: "Yes, I think national recruitment is more transparent and a more level playing field compared to back in the day."
	Training programme • Study days • Allocated study leave expenses	SRF2: "I think the thing that is helpful as well is that there is a training programme, where we have some training days provided. That is a selling point of this course really, that you do have study days, because actually when you're in practice, firstly you are paying for all of that yourself and secondly you don't have the time to do it, we are given time and I think we should be selling that in a way."
Future career plans	Uncertainty for future career plans	SRF1: "I'm not really sure at the moment, I'll see where life takes me." SRF2: "I think the really interesting knock on effect of the intensity of our training means that perhaps I'm less sure of the future. The good thing is that we have opened doors and it is nice to have those options, but I think sometimes it makes your decision making slightly less clear cut."
	NHS Consultant	SRF2: "I'm applying to be a Consultant but until you pass the exam and until you get through that stage you don't actually know what you are going to be doing."
	Consultant and specialist practice	SRF3: "I'd like to work as a consultant full time somewhere but maybe have a hand in practice at the weekend or something, so you are not out of touch with the practice side of things, that would be a good idea."
Specialist practice	Advantages • Work-life balance	SRF3: "I think there are people that are in practice that do have a better work-life balance."
Academia	Advantages • Studying • Research	SRF2: "I really enjoyed the study part and I quite liked fitting it all together. As it happens my research is now outside of my clinical field in a way, which I didn't expect it to be. I thought it would be quite integral, instead it's gone down a different route but I still quite like finding reasons why and that's why research excites me."
	Disadvantages • Lack of clinical time • Nature of research	JJ: "Would you consider academia as a career option?" SRF1: "No. I don't enjoy it, research is something I've done because it is part of the course and I'm more of a clinical person, a hands-on person and I find research quite difficult so I wouldn't do it."

	• Challenges within research • Work-life balance	SRF2: “However, I think it has been quite challenging. So, I’m not sure I will want to continue that feeling of challenge forever. I think it will always be a balance and I’m not quite sure, back to the work-life balance, I’m not sure how you then have a real life as well.”
	Previous research experience	JJ: “SRF3 have you considered a career in academia?” SRF3: “Once, briefly, very briefly. No, I don’t think I’ll do it, I think I’d go nuts. I think it really depends on where you are trained, where I did the first 3 years of ortho, we didn’t have much help when it came to research. We didn’t have a professor at the time in orthodontics, so we were left alone. I think your experience in research might give you a shaded view of this is great or its actually not that great and my view was not great at the time because it was really difficult, we didn’t have anyone guiding us.” SRF3: “I think research is full of loads of problems, there’s loads of barriers you have to get passed, just to get your research going. I don’t know if that happens all the time, that is just what I have experienced, so no, no just based on my experience, unfortunately.”

Appendix VI.6: Male Senior Orthodontic StR Matrix Framework

Theme	Primary code	Sample quotes
Motivations to choosing orthodontics as a specialty	Previous orthodontic experience	SRM1: "When I applied to dental school, I planned to become a specialist anyway. I enjoyed orthodontics as an undergraduate so that was my preferred specialty." SRM1: "I was an undergraduate at Bristol and a lot of the Consultants there are in orthodontics, the people that are organising the courses, so I took a lot of inspiration from them."
Motivations to choosing Post CCST training	Additional experience	SRM3: "So, the end goal is to have a Consultant job. In terms of that, it's a means to an end for that. Getting more experience, a wider scope of practice as well, that comes into the end goal of the consultant post, ultimately."
	Career variation	SRM1: "I felt if I stopped at specialist level, I might get a bit bored in the long term over a practicing life. I might want to have a bit more variety in my practice."
	Status	SRM2: "In everything that I have done I have always tried to be the best that I could be and try to get to that level where you are at the top. I think that's what has driven me this time to walk away and do it because if I hadn't, I would have felt like I was missing out."
	Job security	SRM1: "Personally, I see myself working part time as an NHS Consultant and working part time in private practice. I'm not particularly interested in a 10 PA job for lots of reasons really. I don't think being a Consultant in the NHS is the same job that it was 20 years ago or when our predecessors entered into and I think that they would say the exact same thing. Looking at my Consultants that I work with, no one is as happy as they use to be. I probably see myself working part time and more than anything trying to split the risk."
	Pre-determined career pathway	SRM1: "For me I had always planned to be a Consultant at the end of the day. I thought that personally, leaving specialty training, leaving and then coming back to senior training would be a bit harder than doing it all as one lump." SRM2: "I always wanted to do Consultant training. I took specialty training then had to take a paused break because the military stopped offering it and I had to give up a career and a pension to do it."

		SRM3: “So, the end goal is to have a Consultant job. In terms of that, it’s a means to an end for that. Getting more experience, a wider scope of practice as well, that comes into the end goal of the consultant post, ultimately.” SRM3: “I mean for me, I probably wanted to do Consultant level training before I wanted to do Orthodontics, if that makes sense. So, I knew I wanted to feel like I had a skill in a particular area of dentistry that you have slightly better than average skills in.”
Barriers when applying for Post CCST training	Finances associated with training • University fees • Salary	SRM2: “I’m at a very different stage in terms of trainees. I’ve got a nine year old and a ten year old, we’ve got our final house, serious bills to pay, kids going to private school and the thought of dropping down to a trainee-consultant salary scared the life out of me and that was probably the biggest barrier for me. It was about getting all of the ducks in a row so that I could do it safely. When you’ve got other people depending on you, you can’t really say I’m going to be a Consultant again for a few more years.” SRM1: “I was quite affected by the cost of training because I didn’t expect the fees to be as high as they were. So, Bristol was a three-year course with full university fees plus bench fees on a relatively low salary with quite a lot of expenditure. It was difficult, and I ended up taking loans and that was the hardest bit of training for me, really, was the financial worry. That was by far the hardest bit, the work was fine, but it was the financial worry that was the hardest bit. I spent all of my short career saving towards something significant like a house purchase or anything really and within one year it was all gone on university fees and then the second year I had to take a loan and things like that. So, that was a significant barrier, but it wasn’t something that would stop me, but I could see it stopping someone else that who potentially couldn’t access additional funding because you can’t get additional funding from the NHS or the student loans company for a second degree when you are being paid a wage.”
	Family considerations	SRM2: “I’m at a very different stage in terms of trainees. I’ve got a nine year old and a ten year old, we’ve got our final house, serious bills to pay, kids going to private school and the thought of dropping down to a trainee-consultant salary scared the life out of me and that was probably the biggest barrier for me. It was about getting all of

		the ducks in a row so that I could do it safely. When you've got other people depending on you, you can't really say I'm going to be a Consultant again for a few more years." SRM2: "You can't just leave your family all of the time and drop them. It's very conflicting. For me the work-life balance was very important. If it hadn't been part-time, I couldn't have done it." SRM3: "I think ultimately the job at the end puts a lot of people off, not everyone's cut of tea. I think at that point in your life, careers have started to become more important as is families, priorities for teeth and work become lower on the pecking order. That's probably some of the biggest reasons from colleagues that put them off."
	National recruitment • Location • Competitiveness	SRM1: "The geography of the situation plays a factor I think, because it is national recruitment, you get a lot less of say as to where you go. Unless you want to go somewhere that is potentially less desirable to go to, to outside candidates. That plays a significant factor because it involves relocating people and you don't necessarily get a choice in where you get to relocate to." SRM2: "The whole work-life balance to me is very important. If I hadn't got a job at District General Hospital A I wouldn't be an FTTA now and in the interview they said me, obviously you don't want to be a Consultant bad enough." SRM3: "For me, I had a bad experience with recruitment and getting into ST1 initially. I wouldn't say that put me off, but it made me apprehensive of the process." SRM1: "I think from people I have been talking to the barriers are; the fact that they don't want to be a Consultant, the recruitment process itself is a barrier, because it is a bit rubbish, the geography issues are a barrier because they won't have as much choice, in terms of where they can be. From people I've talked to who are senior trainees now that are a year, year and a half in, two years in, a lot of them wish they never did it because they are just fed up."

	Mentors	SRM1: “I don’t think being a Consultant in the NHS is the same job that it was 20 years ago or when our predecessors entered into and I think that they would say the exact same thing. Looking at my Consultants that I work with, no one is as happy as they use to be.”
	Perception of orthodontic consultants	SRM1: “I’m not particularly interested in a 10 PA job for lots of reasons really. I don’t think being a Consultant in the NHS is the same job that it was 20 years ago or when our predecessors entered into and I think that they would say the exact same thing. Looking at my Consultants that I work with, no one is as happy as they use to be. I probably see myself working part time and more than anything trying to split the risk.” SRM1: “There is a small proportion of people that genuinely need orthodontic treatment, but that proportion is very small for the number of orthodontists that there are. In the longer term with austerity and cuts and efficiency savings is orthodontics going to be in the NHS during my working life? Is there a need for a full-time orthodontic Consultant in a hospital, in a district general hospital, taking up space? That’s my view of it.” SRM3: “Another barrier is at the end with Consultant posts and also seeing the current work force that are working very hard and being overstretched. That is one thing that slightly puts you off and increasing pressures on NHS staff and university staff to kind of perform. I know those pressures would be in practice as well but, I always think there is that question mark in the back of your head, if the job at the end is exactly what you hope it to be and how is it going to change between now and the future?
	Lack of flexible working	SRM3: “Coming back to the barrier thing, I think speaking to an awful lot of people, I think if it was more flexible to do part-time training for men and women it would become a lot more popular. I know that is a big barrier for a lot of colleagues who don’t want to commit to doing it full-time for two years but would rather do it part-time where they can do a bit of practice and earn some money for once in their life.”
	Exams – ISFE	SRM3: “I think chatting to some FTTAs that had gone through when I left London, the final straw for them was the ISFE exam as well, of just how ridiculous it sounds and that it doesn’t seem to be a real-world exam, in terms of what you are doing. All

		aspects of it, the critical appraisal, the difficult cases. I think the management bit is probably the most realistic bit to what you do, but ultimately, they say they are asking you all these policies and stuff, but I mean in the real world you are looking them up on the Trust Intranet to find out the details. I know a few people that were close to throwing in the towel and not doing the ISFE come the end, but they thought they had committed so much by that point. That is certainly another barrier as well."
Facilitators in applying for Post CCST training	Support • Parental	SRM3: "I'm lucky both of my parents are in the dental world and both have gone down academic type pathways. They've always been there to support me, I wouldn't say push me, but it was always nice to have that information there, be a very useful resource to go to of knowing what the pathway involves and also where you get to at the end and what that involves."
	Continuation of lifestyle	SRM1: "For me I had always planned to be a Consultant at the end of the day. I thought that personally, leaving specialty training, leaving and then coming back to senior training would be a bit harder than doing it all as one lump."
	Mentors	SRM1: "When I started my specialty training even though I had already planned to do senior training and go that far, my trainers did inspire me to replicate them really. What I really wanted out of being a Consultant wasn't really to be an NHS Consultant because that isn't the same job that it used to be or as enticing but the desire to have a trainee and train someone to be a specialist and have the same sort of effect that my trainers had on me." SRM1: "I was an undergraduate at Bristol and a lot of the Consultants there are in orthodontics, the people that are organising the courses, so I took a lot of inspiration from them."
	Ability to train part-time	SRM2: "You can't just leave your family all of the time and drop them. It's very conflicting. For me the work-life balance was very important. If it hadn't been part-time, I couldn't have done it."
Advantages of Post CCST training	Structured timetable • Admin time allocated • SPA sessions	SRM1: "As a trainee in the hospital you get admin sessions and SPA sessions whereas you wouldn't in practice."

Disadvantages of Post CCST training	Length of training	SRM3: "I think the length of training is about right. I mean I don't know, I'm not at the end to really look back and reflect to see if it was sufficient. I kind of get the impression it is about right. Ultimately for orthodontics for your patients you want that continuity of care to see someone through from start to finish, which is one bit you miss with the FTTA bit because it's too short to get cases started and finished. I don't think it necessarily needs to be longer because it is more about the planning and the NHS side. I think seeing cases start to finish wouldn't make me a better Consultant at the end. I don't know, I may change my mind come the end." SRM1: "I definitely think the FTTA is too short. I think two years isn't long enough to do complex cases and that's where I see a benefit of run through where in your third year you take on the complex cases. So, essentially it would be better if it was two years, then three years. It used to be three years for senior reg training and three years for specialty training and it got changed to bring it in line with medics more than anything else, not because it needed to be shorter."
Future career plans	Academia • Teaching/Education • PhD	SRM1: "I didn't want to be a 60 % trainee, 40 % research or 50:50. For more logistical reasons more than anything else. I think it's harder to organise part time life. It would have extended training. My view is that if I want to do a PhD in the future then that option is still open if you still have contact with a medical or dental school." SRM3: "In terms of more academia route, I think it's a relatively new thing but education in the university side is becoming more important to them and that's kind of more, the route I am interested in going down which is becoming kind of a separate pathway to research academia. Almost in two separate pathways but I'm not really aware of that as a thing in Bristol but I know in other universities they are almost considered as separate kind of entities and people choose to go down one of the other."
	Consultant and teaching	SRM2: "I think for me, it'll be part-time, if I can do a bit of teaching with that then that's my slant."
	Consultant and specialist practice	SRM1: "Personally, I see myself working part time as an NHS Consultant and working part time in private practice. I'm not particularly interested in a 10 PA job for lots of reasons really. I don't think being a Consultant in the NHS is the same job that it was 20 years ago or when our predecessors entered into and I think that they would say

		the exact same thing. Looking at my Consultants that I work with, no one is as happy as they use to be. I probably see myself working part time and more than anything trying to split the risk."
Non-determinate factors affecting career progression	Salary	SRM3: "I don't think you can necessarily say that the people that have gone through to get to the end of their specialty training are necessarily money driven, because they probably would have peeled off from some of these jobs and pathways sooner, to earn money in practice. I don't think that many people in orthodontics, that money is their main driver."
Specialist practice	Advantages • Finances	SRM2: "I'm in private practice at the minute and I do 12-hour days Mondays and Tuesdays. It's just a sausage machine, it's not enjoyable, you just do it. It pays the bills very well, but I don't see my life there."
	Disadvantages • Intensity • Work-life balance	SRM2: "I'm in private practice at the minute and I do 12-hour days Mondays and Tuesdays. It's just a sausage machine, it's not enjoyable, you just do it. It pays the bills very well, but I don't see my life there."
Academia	Academic training pathway disadvantages • Part-time training • Length of training	SRM1: "I didn't want to be a 60 % trainee, 40 % research or 50:50. For more logistical reasons more than anything else. I think it's harder to organise part time life. It would have extended training. My view is that if I want to do a PhD in the future then that option is still open if you still have contact with a medical or dental school."
	Pressures of research	SRM3: "In terms of, doing academia to be doing research in the long run, no, because I wouldn't want the pressures of having to bring in a certain of income into the university and get things published."
	Knowledge of academic training pathways	SRM3: "In terms of more academia route, I think it's a relatively new thing but education in the university side is becoming more important to them and that's kind of more, the route I am interested in going down which is becoming kind of a separate pathway to research academia. Almost in two separate pathways but I'm not really aware of that as a thing in Bristol but I know in other universities they are almost considered as separate kind of entities and people choose to go down one of the other."

Appendix VI.7: Female NHS Orthodontic Consultant and Clinical Academic Matrix Framework

Theme	Primary code	Sample quotes
Motivations to choosing orthodontics as a career	Previous undergraduate experience • Clinical experiences • Teaching experiences	CF1: "As an undergraduate I really liked it and we had hands on teaching, and we had enthusiastic supervisors." CF2: "I also qualified in Bristol, so I had a similar undergraduate experience. So, I had lots of hands on and an inspirational undergraduate teacher who was enthusiastic and positive about orthodontics, similar supervisors, each session so you kind of got to know you got a feel for it, had your own patients. Yeah so that's probably why I wanted to do orthodontics."
	Mentors	CF2: "I also qualified in Bristol, so I had a similar undergraduate experience. So, I had lots of hands on and an inspirational undergraduate teacher who was enthusiastic and positive about orthodontics, similar supervisors, each session so you kind of got to know you got a feel for it, had your own patients. Yeah so that's probably why I wanted to do orthodontics."
	Absence of on call commitments	CF3: "If you are going to be on maxfac on call, if you're on call throughout being a registrar and a consultant, it does have a big impact on your family life and that was quite important to me. So, fairly early on for me, oral surgery and maxfacs were out of the running, mostly for all of those kinds of reasons."
	Treatment factors	CF1: "I actually thought I just wanted to be a general dentist until I started doing dentistry and I was drilling and filling. I suppose it is the wider sense in that, in most other forms of dentistry, you destroy things, you're putting in a filling or taking teeth out. Whereas in orthodontics, you are, yes often taking teeth out, or asking someone else to do it for you, but you are making things better and not sort of destroying."
Motivations to becoming an Orthodontic Consultant	Career variety	CF1: "I like the variety that it gives me here. You get a range, so it's the teaching I suppose and the ability to be able to be involved in different bits, not just treating patients. That's it for me I suppose."
	Teaching opportunities	CF1: "I like the variety that it gives me here. You get a range, so it's the teaching I suppose and the ability to be able to be involved in different bits, not just treating patients. That's it for me I suppose."

		CF2: “Why did I go on? Similar reasons I guess, and I guess I didn’t feel quite finished as a specialist. I think I wanted to finish the two years and be as good as I could be and if then I chose to be a specialist then fine, but I got the most out of my training that I could at the time. I suppose in those two years I enjoyed the teaching, the management and the variety. For me, I decided I wanted to stay in the hospital system, but I can still do specialist practice. I can do both.”
	Utilising the orthodontic training pathway	CF2: “Why did I go on? Similar reasons I guess, and I guess I didn’t feel quite finished as a specialist. I think I wanted to finish the two years and be as good as I could be and if then I chose to be a specialist then fine, but I got the most out of my training that I could at the time. I suppose in those two years I enjoyed the teaching, the management and the variety. For me, I decided I wanted to stay in the hospital system, but I can still do specialist practice. I can do both.”
	Opportunity to work in secondary care	CF2: “Why did I go on? Similar reasons I guess, and I guess I didn’t feel quite finished as a specialist. I think I wanted to finish the two years and be as good as I could be and if then I chose to be a specialist then fine, but I got the most out of my training that I could at the time. I suppose in those two years I enjoyed the teaching, the management and the variety. For me, I decided I wanted to stay in the hospital system, but I can still do specialist practice. I can do both.”
	Orthodontic team	CF2: “In a hospital you are not alone, you have this team around you, provided that everyone gets on and it is quite a nice place to be.”
Barriers related to career progression	Undergraduate experience	CF3: “I had a different experience in my undergraduate, I was not interested in orthodontics at all. It was not hands on taught. I trained at a different university, so not Bristol and we had zero hands on. We just watched the registrars treat patients and then had to go and find journals to back up why they used certain mechanics. I’m a hands-on person so it didn’t appeal to me at all. I wanted to do oral surgery or paeds.”
	Cost of training	CF3: “That’s hard, you can do it but it’s hard. So, you know the price of doing the exam, some people have commented it’s an expensive exam to sit. In relative terms, it is not that expensive, but actually you take a salary drop to do your post CCST training and then they charge you do it exam and you’ve already paid to do the MOrth exam and it’s all relative, but nevertheless there are little things that might tip the balance really.”

	Family considerations	CF2: “I think some of my colleagues were just done, one of my friends her husband said you go on to an FTTA I will divorce you, I can’t take anymore, I’m done.” CF3: “I think children, not so much family, or money or time. I think children is a slight barrier, you can’t be a stay at home mum and be a Consultant in the hospital working five days a week or even part time.”
	Finances • Mortgage • Salary throughout training • Consultant salary	CF3: “I think interestingly I would say now being at the other end of my training really, some of my friends who are interested in doing orthodontics now, those barriers that I found fairly small are now huge, the cost of training, they’re already paying mortgages, they have kids, how are they going to afford all of that? You get used to a certain lifestyle, I guess. I think it’s the time and where are you going to go.” CF3: “That’s hard, you can do it but it’s hard. So, you know the price of doing the exam, some people have commented it’s an expensive exam to sit. In relative terms, it is not that expensive, but actually you take a salary drop to do your post CCST training and then they charge you do it exam and you’ve already paid to do the MOrth exam and it’s all relative, but nevertheless there are little things that might tip the balance really.”
	Location	CF3: “With national recruitment it is harder to necessarily pick where you end up and I think that is a barrier for people who are my age, people are very much settled in the same place. They don’t want to keep moving around, so those barriers are a lot bigger.” CF1: “There is a bit of a rebellion towards, against the rigidity of the course. I think you are right, you can see it, absolutely and there is an exam at the end of it and there is lack of control over where you go in terms of geography and people like to train where they are already settled.” CF2: “For me, my husband had already bought a practice so if national recruitment had sent me to Newcastle I couldn’t, I would have been going into practice.”
	Having a break in training	CF1: “Some people do come back into it, not many do when they have been in practice for a long while. We’re having more interest from specialists that have been

		out two or three years. Like Consultant C did eight, nine years then came back into a Consultant training. I think that is harder as you get slightly more set in your ways." CF2: "I get that as well. In some ways having that break and coming back should make the ideal candidate, they've bagged a bit of money, they've had a break, they are much better clinically because they've got that volume through, but then life I imagine, having children, the salary, the control, all of those things, if you go out with that intention, it might just temper what actually happens. Then just going through the interview and national recruitment again, it is not easy."
	Exams	CF1: "There is a bit of a rebellion towards, against the rigidity of the course. I think you are right, you can see it, absolutely and there is an exam at the end of it and there is lack of control over where you go in terms of geography and people like to train where they are already settled." CF3: "That's hard, you can do it but it's hard. So, you know the price of doing the exam, some people have commented it's an expensive exam to sit. In relative terms, it is not that expensive, but actually you take a salary drop to do your post CCST training and then they charge you do it exam and you've already paid to do the MOrth exam and it's all relative, but nevertheless there are little things that might tip the balance really." CF1: "Well, I think they are high stakes exams, your MOrth is a high-stake exam and then when you have chosen to do another two years, that's another high stakes exam."
	Fatigue	CF2: "Some people are just tired, and at the point where you need to say, let's do another two years, with another exam, is the time when sometimes you're at your lowest ebb, isn't it?" CF3: "I remember lying down, lying down on the chairs in the interview room and feeling so tired, I was just exhausted and one of my friends didn't turn up to the interview because he was burnt out by it all. If doing the extra two years is going to be more of this then I'm done. Which is the wrong attitude."
	Impact on social life	CF3: "And similar things even in my course, like my other half was a bit like, you know can't we do something fun this weekend, no, I've got to do an essay, we can't go to that family thing."

	National recruitment • Competitive • Timing of application/interview	CF2: "I get that as well. In some ways having that break and coming back should make the ideal candidate, they've bagged a bit of money, they've had a break, they are much better clinically because they've got that volume through, but then life I imagine, having children, the salary, the control, all of those things, if you go out with that intention, it might just temper what actually happens. Then just going through the interview and national recruitment again, it is not easy." CF1: "Just having to get all of your stuff together for national recruitment, the bits of paper, I mean there is lots of things and you just think that's time, can I be bothered?" CF3: "I remember lying down, lying down on the chairs in the interview room and feeling so tired, I was just exhausted and one of my friends didn't turn up to the interview because he was burnt out by it all. If doing the extra two years is going to be more of this then I'm done. Which is the wrong attitude."
18-month continuous training rule	Need for a rule	JJ: "What do you think about the 18 months continuous training rule and women going on maternity leave?" CF3: "I think it has some merits, in terms of it's practical, but you can't, the training needs to fit better and be more flexible and be, I think the training needs to catch up, it needs to modernise. But I understand that it's a bit of a pain." CF1: "I suspect for orthodontics, whereas for a lot of other specialities you are doing treatment, paediatric dentistry for example, you take this patient and it is continuous, but you are doing piecemeal treatment, so you are maybe treating the trauma, then keeping them on, you know, I can see that. But in orthodontics, you are going to be trying to get a patient done in 18 months so I can see that and absolutely agree with what CF3 said and probably for our specialty it probably makes more sense because otherwise when are you going to see the patients through and how are you going to take those patients on and I think that is more challenging if you are not there continuously."
	Need for more flexibility	JJ: "What do you think about the 18 months continuous training rule and women going on maternity leave?" CF3: "I think it has some merits, in terms of it's practical, but you can't, the training needs to fit better and be more flexible and be, I think the training needs to catch up, it needs to modernise. But I understand that it's a bit of a pain."

		CF3: “I just don’t see how they can enforce it and that’s what my problem is, that it is forced, not a forced thing but it is very...” CF1: “Rigid.” CF3: “Rigid, I do understand but there has got to be better ways around it.”
Facilitators related to career progression	Comparison between specialities	CF2: “I suppose I did do maxfacs, I did do restorative, I did a path job. They were all interesting but in a process of elimination, it did make me think, I do really want to do orthodontics.” CF3: “I would say again, I had a male consultant sort of help me, pick orthodontics. Who helped me a lot during my oral surgery year and went through more about the orthodontic side of things, in the surgical cases we were doing. He said that having known me over the course of the year that I would be most suited to orthodontics. We then discussed the merits of it, especially over surgery which I had always liked.”
	Mentors • Support	CF1: “It’s role models, so for me. My first supervisor was someone called Supervisor A who was a lecturer here, he was good and enthusiastic. But then we had a new Consultant that came in, Consultant A and it was her first Consultant post, she was new, and she was female, and she was sort of that role model and inspired me I think to do orthodontics. She was very enthusiastic about it and supported me during that. I think that’s always helpful if you’ve got someone that says, yeah you can do this and go on with it so.” CF2: “Yeah, so I think for me, Consultant B was my undergraduate tutor, so it was great for me. CF1 was a couple of steps ahead of me, all the way, so I guess actually for female role models who were a couple of steps ahead, where you could go, or what should I do next then, you were there as well.”
	Part-time training during FTTA	CF2: “So, yeah then I trained part-time so again orthodontics is a career. The training pathway was great, I was able to finish my training and I was about six months behind my contemporary who I started with, it was fine. Then I went on to have two more children when I was a Consultant. It was alright.”
Non-determinate factors related to career progression	Salary of Consultants	CF1: “If we wanted to make money out of orthodontics we wouldn’t be sat here as Consultants.” CF2: “We’ll never make money, you know the differential, from when we qualified to being in practice. So, it isn’t a money choice, it can’t be.”

		CF1: “So, you know I was at a time when, you know I’d see colleagues that came out at the same year as me graduating and they are now retired because its choices, but I would still wouldn’t go back on my choice. I still enjoy what I do.”
	National recruitment	CF3: “I thought it was very straight forward (national recruitment), I wouldn’t say that was a barrier at all, for men and women.”
Comparisons between orthodontics and maxillofacial surgery	Working hours/on call commitments	CF3: “If you are going to be on maxfac on call, if you’re on call throughout being a registrar and a consultant, it does have a big impact on your family life and that was quite important to me. So, fairly early on for me, oral surgery and maxfacs were out of the running, mostly for all of those kinds of reasons.” CF1: “I did maxfacs and it came with on call and I was quite happy to give it up.” CF2: “I did maxfacs because I needed it to get into ortho, but it was not a six months that I enjoyed. Again, I’m a planner and perhaps that’s why ortho appeals to me, I don’t know. The uncertainty of maxfacs and the bleep and what was coming in and you’d go to bed at whatever, 10 o clock knowing that probably the person you were going to get called for at 1 had probably just walked through the door. It did my head in. I couldn’t stand it.” CF3: “It was great fun for a year, I found.” CF1: “Yeah it was alright.” CF3: “But long term I agree.”
Family planning and orthodontics	Mentors	CF2: “Having Consultant A. I didn’t even know who Consultant A was until I got on to the registrar programme, but she was then who we would work with in Bath and again she was phenomenal. She has been, in actual personal life and I had children whilst doing my senior reg training and when I think about some of the ways I’ve structured my career with regards to my work-life balance has come from Consultant A.”
	Duration of maternity leave	CF2: “Interestingly I took six months off for all of my kids but I did, you do feel, that responsibility to come back, not just for your patients but for your team, because you know that when you are there, there are people covering for you, people that are already busy, already stretched and you are asking more of them, so that’s pulling at your heart strings a little bit as well.”

	Issue: Maternity leave and self-employment	CF3: “It does, especially around maternity leave, because I don’t have a family yet, but I know my boss had two weeks off before she had to come back and start seeing her private patients. So, her baby came two weeks early so in total she had a month. I saw her private patients for the first two weeks, so she had a month, but she still had to come back for two afternoons a week seeing private patients and had to like breast feed in between patients and pump in between patients. Sorry for being graphic there. It’s true, the practicalities of it, it’s difficult for private. For NHS, it is a lot easier, but you still have to find a locum, so that is a real big factor and a real big plus factor or hospital and consultant training rather than specialist practice.”
	Working hours • Returning to work part-time after having children	CF2: “I started full time, had my baby, so I started in the October, my baby was born in the May, I then worked four days, so I completed my registrar training on a slightly part time basis.”
	Issue: Family planning – when to have children	CF1: “There’s never a, when I say there is never a convenient time to have children, I don’t mean it quite like it sounds. In a career structure, you are already thinking, CF2 will probably have a different view because she had children at a slightly different stage as I had mine. I had mine as a Consultant which means I was no longer having to sit exams and things like that but on the other hand you’ve got your patients there, you’ve got that, you still have that sort of, sense of, what’s the word? Responsibility, to your patients.” CF2: “I am the opposite, I met my husband at dental school, we were married at 25, he was working in practice and I guess, if I imagine that I was working in general practice as well we would have started our family a lot earlier. But I knew what I wanted to do, and I wanted to get on to Bristol and I knew that there was that three-year cycle, so I needed to make sure I was ready, to give myself the best chance of getting on. Then once I was on, having children during, that three-year period, I say was not tolerated, in a slightly jovial way, you just wouldn’t have had, so our overseas did but you’d be slightly scared about having kids during that three-year time. And to be fair it is a really tough three years and I don’t think I could have personally managed having a baby and delivered what I needed to deliver. You feel like you get your money’s worth out of those three years and children as well for me, would have

		been too much. But then the compromise was my husband and our family plans were then during my senior registrar training, when we did start a family."
	Perception that attitude towards women of child rearing age has and is continuing to change	CF1: "I think things have very sensibly evolved over time and I would say that it is probably because there is a greater female presence in the workforce for orthodontics now, going all the way through, having gone through having children and having to do training etc. Like CF2 said, how it would be perceived, if we did our courses, whereas now actually it's common place." CF2: "That's how it should be."
Challenges of having a family and a career	Childcare arrangements • Sharing parental duties • Cost • Additional help	CF1: "I work full time, I often work in the evening, this evening and at weekends, I often go away and if you had two people doing that then that's hard if you then have a family as well." CF3: "Men are getting a bit more involved or alternatively you get help, you get a nanny or an au pair or a child minder. I think there is a lot more of that within Consultants than necessarily working part time and general dental practice or specialist practice." CF3: "My other boss, she got a nanny at 2 months old because of her private patients and she is also setting up a new practice and she felt really guilty about it and thought all these people in the hospital have had their six months, nine months maternity leave and I can't be with my baby. Her husband wasn't working at the time either, he was setting up a new business, a practice. It wasn't possible to go to all of these different meetings, see patients, do this huge amount of paperwork that comes with orthodontics so she got this nanny and in the first few weeks she felt quite guilty but then she felt it was the best decision that she had made, because I can go home and have good quality time rather than have all of the boring bits and sitting around."
	Starting a family during training	CF2: "I am the opposite, I met my husband at dental school, we were married at 25, he was working in practice and I guess, if I imagine that I was working in general practice as well we would have started our family a lot earlier. But I knew what I wanted to do, and I wanted to get on to Bristol and I knew that there was that three-year cycle, so I needed to make sure I was ready, to give myself the best chance of getting on. Then once I was on, having children during, that three-year period, I say was not tolerated, in a slightly jovial way, you just wouldn't have had, so our overseas

		did but you'd be slightly scared about having kids during that three-year time. And to be fair it is a really tough three years and I don't think I could have personally managed having a baby and delivered what I needed to deliver. You feel like you get your money's worth out of those three years and children as well for me, would have been too much. But then the compromise was my husband and our family plans were then during my senior registrar training, when we did start a family." CF2: "I suppose it was my choice not to have children during those first three years, I didn't think I could cope."
	Impact on career goals and aspirations	CF2: "So, I thought about it, briefly, I think as a follow up after my SpR training. I think at the time I had a young family, for me, I felt split in too many ways, there was my university master, my NHS master, trying to balance a young family on top of that, the time it would take out of my family time to complete a PhD for me, it was a lot extra work and I couldn't quite see the benefits being enough." CF1: "My job leaches into family life now." CF2: "It leaches as much as you wish to." CF3: "I think children, not so much family, or money or time. I think children is a slight barrier, you can't be a stay at home mum and be a Consultant in the hospital working five days a week or even part time."
	Maternity leave and impact on the orthodontic team and patients	CF3: "I don't have a family yet, but I know my boss had two weeks off before she had to come back and start seeing her private patients. So, her baby came two weeks early so in total she had a month. I saw her private patients for the first two weeks, so she had a month, but she still had to come back for two afternoons a week seeing private patients and had to like breast feed in between patients and pump in between patients. Sorry for being graphic there. It's true, the practicalities of it, it's difficult for private. For NHS, it is a lot easier, but you still have to find a locum, so that is a real big factor and a real big plus factor or hospital and consultant training rather than specialist practice." CF2: "Interestingly I took six months off for all of my kids but I did, you do feel, that responsibility to come back, not just for your patients but for your team, because you

		know that when you are there, there are people covering for you, people that are already busy, already stretched and you are asking more of them, so that's pulling at your heart strings a little bit as well. So, I know people, they are taking a year off. I couldn't have done that. I don't think. I enjoy my job and I wanted to come back and that feeling of belonging I suppose, to come back to the team."
Specialist practice	Split site working	CF3: "I think that does, that did, does play in the back of my mind that specialists job are fewer and far between and the jobs that there are, you won't get a job that is five days a week in one place. You'll have to do a job here one day, then two days there and you're more of a satellite worker."
	Advantages • Freedom • Flexibility • Business opportunities • Working hours • Suits personality type	CF3: "When you are in practice, you are kind of your own boss and you get used to not only the clinical side and the treatment planning, but you learn, well I know I can order this equipment, I know I can work when I want, I know I don't want to work Friday afternoons, I can have Friday afternoons off." CF1: "That's the change, between having a salary and self-employment. You get a degree of flexibility with self-employment and some of the risks, uncertainty but in salary brings you structure which sometimes can be quite rigid and lack of control. It's like all jobs, there' swings and roundabouts." CF3: "I think the money is one thing, the financial side but it is everything else that they moan about more. They like working the hours that they like and like being able to take leave when you want to, and I can order the equipment I want and work as hard as I want on this day. They like they've got control and as orthodontists we are quite controlling."
	Disadvantages • Nature of self-employment • Maternity leave	CF3: "Specialist practice versus hospital. I work on an hourly basis and get paid by the hour and although I don't like to, if I have a day off, I'm thinking, right how much money have I lost that day? That's not really a nice way of thinking about things and that's not how I really think about anything else in my life. Whereas on my salaried days I don't think about it at all, I just come to work, enjoy it and if I have a day off, great I have a day off, rather then, oh I should really be in work, that's x amount that I'm going to have to make up another day."

		CF3: “I don’t have a family yet, but I know my boss had two weeks off before she had to come back and start seeing her private patients. So, her baby came two weeks early so in total she had a month. I saw her private patients for the first two weeks, so she had a month, but she still had to come back for two afternoons a week seeing private patients and had to like breast feed in between patients and pump in between patients. Sorry for being graphic there. It’s true, the practicalities of it, it’s difficult for private. For NHS, it is a lot easier, but you still have to find a locum, so that is a real big factor and a real big plus factor or hospital and consultant training rather than specialist practice.” CF2: “Even in practice, my friend had her appendix out and her boss wanted her back within a week to see her private patients. Medically she was in a bit of a pickle and psychologically she was a mess because she was having pressure put on her by her boss to see these patients because they were private, and someone needed to see them.”
Secondary care	Advantages • Salaried position • Structure • Orthodontic team • Study days	CF3: “Specialist practice versus hospital. I work on an hourly basis and get paid by the hour and although I don’t like to, if I have a day off, I’m thinking, right how much money have I lost that day? That’s not really a nice way of thinking about things and that’s not how I really think about anything else in my life. Whereas on my salaried days I don’t think about it at all, I just come to work, enjoy it and if I have a day off, great I have a day off, rather then, oh I should really be in work, that’s x amount that I’m going to have to make up another day.” CF1: “That’s the change, between having a salary and self-employment. You get a degree of flexibility with self-employment and some of the risks, uncertainty but in salary brings you structure which sometimes can be quite rigid and lack of control. It’s like all jobs, there’ swings and roundabouts.” CF2: “I had a friend that said well give up the hospital and do two days a week, you’d earn more money, you’d spend more time with your kids, you’d have more control, you can’t argue with it. It just depends what you love, what floats your boat, what make you get up in the morning, everyone is different on that call.”

		CF2: “I can take a day as study leave if I fancy going on a course. There are just different pressures, so it’s what you want I suppose out of life.” CF2: “In a hospital you are not alone, you have this team around you, provided that everyone gets on and it is quite a nice place to be.”
	Disadvantages • Lack of clinical freedom	CF1: “That’s the change, between having a salary and self-employment. You get a degree of flexibility with self-employment and some of the risks, uncertainty but in salary brings you structure which sometimes can be quite rigid and lack of control. It’s like all jobs, there’ swings and roundabouts.”
Dental Hospital	Advantages • Access to opportunities within academia • Supervising opportunities • Variation	CF1: “I feel I get the best of all worlds working in dental hospital because I can pick up some of that, can help with supervision and write papers and things like that. But I don’t feel like I have this pull or quota that I have to hit to get so many research papers or students through.” CF2: “In the dental hospital environment, you get to have that kind of variation without having to do a PhD, having that added pressure, having two masters, so you can still be university.”
Academia	Disadvantages • Academic pressures • Reduced clinical time	CF1: “I always wanted to be an NHS Consultant and I didn’t really want the pressures of an academic role. My passion is treating patients, not writing research papers. When you take an academic role, you reduce the amount of clinical time and that is where my interest and my focus is. So, for me, it wasn’t the academic pathway that put me off, I wanted to do orthodontics and I like the hands on of treating patients and I didn’t want to really reduce that time, because that is where my interest is, rather than research.” CF3: “If you are an academic there is a certain amount of time that you need to spend at home reading, researching, writing.” CF2: “It never stops, it can’t stop.” CF3: “Whereas if you are purely sort of clinical, there is still a huge amount of take-home work as well but at least there is less stuff you can do at home. If you are an academic it will leach into family life a lot more.”
	Barriers associated with a career in academia	CF2: “So, I thought about it, briefly, I think as a follow up after my SpR training. I think at the time I had a young family, for me, I felt split in too many ways, there was my

	• Family considerations • Impact on work-lifebalance	university master, my NHS master, trying to balance a young family on top of that, the time it would take out of my family time to complete a PhD for me, it was a lot extra work and I couldn't quite see the benefits being enough."
Emotional motifs	Guilt – taking maternity leave	CF1: "There's never a, when I say there is never a convenient time to have children, I don't mean it quite like it sounds. In a career structure, you are already thinking, CF2 will probably have a different view because she had children at a slightly different stage as I had mine. I had mine as a Consultant which means I was no longer having to sit exams and things like that but on the other hand you've got your patients there, you've got that, you still have that sort of, sense of, what's the word? Responsibility, to your patients." CF2: "Interestingly I took six months off for all of my kids but I did, you do feel, that responsibility to come back, not just for your patients but for your team, because you know that when you are there, there are people covering for you, people that are already busy, already stretched and you are asking more of them, so that's pulling at your heart strings a little bit as well. So, I know people, they are taking a year off. I couldn't have done that. I don't think. I enjoy my job and I wanted to come back and that feeling of belonging I suppose, to come back to the team."
	Guilt – childcare arrangements	CF2: "We have got a nanny that's how we manage, I'm paying for my peace of mind so that I can sit here tonight and have this conversation because I know that my kids are happy. You know my husband has been helpful, we have a good partnership I guess, similarly like you guys were saying, am I the Mum that is doing the drop offs at the school and doing the PTAs? No and I just deal with that guilt. I can't always have the plays dates but it's a balance." CF3: "My other boss, she got a nanny at 2 months old because of her private patients and she is also setting up a new practice and she felt really guilty about it and thought all these people in the hospital have had their six months, nine months maternity leave and I can't be with my baby. Her husband wasn't working at the time either, he was setting up a new business, a practice. It wasn't possible to go to all of these different meetings, see patients, do this huge amount of paperwork that comes with orthodontics so she got this nanny and in the first few weeks she felt quite guilty but

		then she felt it was the best decision that she had made, because I can go home and have good quality time rather than have all of the boring bits and sitting around." CF2: "But there is that expectation as women that work. We are the ones that have the babies and, therefore..." CF1: "Not much we can do about that." CF2: "No and we wouldn't change that, and I think a lot of this headwork of juggling nursery pickups and whatever, inherently you carry a lot of that. I think you just do, don't you?"
	Attitude that women can't have it all	CF1: "I suppose for me my career is very important to me. Not more important than my family or my family life, but you make the choice." CF1: "I work full time, I often work in the evening, this evening and at weekends, I often go away and if you had two people doing that then that's hard if you then have a family as well." CF1: "I think you do have to have that balance but then it does put extra pressure on, when I say extra pressure, I don't feel hugely pressurised, but I do go out to work because that does pay the school fees and amongst other things, I do enjoy the job that I do. There is that slight push with things like that." CF2: "I think there is an element of you can't have it all." CF1: "No." CF2: "We bring girls up with this idea that you can be super mum, super friend, super daughter, super career woman, you can do it all. No, you can't do it all. At 16 or whatever, you choose, and you will make compromises along the way. You will do as much as you can or comfortable doing workwise." CF1: "It's funny, my eldest daughter when she went to nursery, she learnt to say the nursery carers name and my husband, so Daddy, before she said Mummy and now you think, but actually that's life and you work with it and all sorts of things, but you can't have it all."

		CF2: “I think that goes to all women in careers. That we can have it all nonsense. You pick and choose, what you take out of it.”
	Pressure from other women	CF1: “I think it is interesting, when I was pregnant with my first, my Aunts, who are an older generation, they all asked are you going to give up work and I went no, and it was like this, what do you mean, who is going to look after the baby? I said I’ll take maternity leave then she’ll go to nursery, but you’ve chosen to have this baby, yes and I’ve chosen to work for the best part of 19 years to get where I am and your taxes and have paid for that, so would you like me to give it up then? Oh, they hadn’t considered it that way and I said its interesting, would you have asked my husband?” CF1: “That’s a family choice, it’s not right or wrong. It is amazing how many people will infer you are wrong, oh you send yours to nursery, four days a week. It’s like, yeah and? It depends if you are insecure as a person, I think then that might not, that might play to your insecurities really. I was quite happy to be the man.”

Appendix VI.8: Male NHS Orthodontic Consultant and Clinical Academic Matrix Framework

Theme	Primary codes	Sample quotes
Motivations to choosing dentistry as a career option	Self-employment	CM3: "It was the self-employed bit, was the bit that interested me coming into dentistry actually, at the start, ironically. I didn't like hospitals and ironically, I ended up in a hospital career. It's strange how that happened."
Motivations to choosing orthodontics as a career	Mentors	CM3: "I left dental school with only 2 areas that I enjoyed doing, orthodontics was one of those, maxfacs or medicine was the other area. My first job was a surgeon. I worked in Northern Ireland and I had the displeasure of working for one of the biggest bullies that I've ever worked for in my entire career. He stabbed me with a 2-0 silk needle on two occasions in theatre because I didn't retract well enough. So, that put me off being a maxfac surgeon because I didn't want to end up like that. I remember sitting in my final year dinner with an orthodontist who was here at the time and she said to me I'd be an orthodontist and hey presto she was right, because I decided at the time, I didn't want to end up like some maxfac surgeons that I've met. Orthodontists seem to be such a happy bunch."
	Desire to have an interesting and varied career	CM2: "I wanted to become an orthodontist because I got to the end of dentistry and thought I can't do this for the next 30-40 years, what shall I do? I didn't want to do maxfacs because I didn't want to be an undergraduate again and I thought I'll give orthodontics a go and then I got towards the end of the orthodontist course and I thought I don't want to do this in practice for the next 30-40 years, I'll be a consultant because I don't want to run a business. Then after 10 years I thought I'm a bit bored of this, so is there an academic route?"
Motivations to becoming an Orthodontic Consultant	Natural career progression	CM1: "I truly didn't even know that orthodontics was competitive. I took a punt, applied, got very lucky, someone who's ended up being my trainer, decided I had something he related to, got in, did the course, got to the end, was lazy and applied for a FTTA, rather than, because it was easier then looking for a job and then at the end of that, fortunately a job became available and I became a Consultant."
	Mentors	CM2: "I think you are inspired by the people that teach you. When I was an undergrad, I had two really good teachers. Neither of them where consultants, both were senior registrars, who were still enthusiastic, really up to date and very good. Then later on, we had the Prof in the department who was again, very inspiring. Yeah,

		so I would say it is the people around you. And then moving on again when you find your consultant job, you tend not to look at the location but the people there again. I've been very fortunate with the people I've worked with and I like coming to work, interacting with the people and that's both at the hospital and the university."
	Wanting to do things "properly"	JJ: "What made you want to become a consultant?" CM3: "I'm sort of an all or nothing type, so for me it's if you are going to do something, do it properly. That was despite one of the people who also influenced me when I was doing VT, a specialist practitioner on the South Coast. He was very positive about being an orthodontist and he invited me to go and work with him but for me, it was you either go and do something properly and do it well and for me that was being a consultant."
	Flexibility	CM3: "It was the self-employed bit, was the bit that interested me coming into dentistry actually, at the start, ironically. I didn't like hospitals and ironically, I ended up in a hospital career. It's strange how that happened. For me, it was more to it than that, in terms of yes there was a package, where you got salaried and you got a pension, that was a good package at that time, but you still had the option if you did want to do a bit extra or dip out or do some extra hours, you could still do that. So, for me that was the flexibility bit that I quite liked. So, that was one of the reasons that quite attracted me to do it, I suppose. But with all the intensions of being a full time NHS Consultant."
	Job satisfaction	CM2: "Money was not a motivator for me. Job satisfaction was a bigger motivator for me. I didn't want to run a business. The practices I worked in weren't that great in the general practices, I only did it part time. I just liked the clinical freedom of being in a hospital and not be thinking how much have I earnt today? Which is what I was doing in practice. Sometimes when it didn't cover your petrol money to get there, you think why am I doing this? So, it just didn't appeal to me at all." CM3: "Yeah and that's one of the other things, it offers you a degree of variety that's not there in specialist practice or in being a dentist and I certainly enjoy that bit of it. I wouldn't want to be in the same four walls, in the same practice, whether that is orthodontics or general practice. I've never wanted to do that."

		CM1: “I really like my job. The core job, I really like being an orthodontist. I think it is a wonderful job.”
	Career package • Pension • Salary	CM3: “It was the self-employed bit, was the bit that interested me coming into dentistry actually, at the start, ironically. I didn’t like hospitals and ironically, I ended up in a hospital career. It’s strange how that happened. For me, it was more to it than that, in terms of yes there was a package, where you got salaried and you got a pension, that was a good package at that time, but you still had the option if you did want to do a bit extra or dip out or do some extra hours, you could still do that. So, for me that was the flexibility bit that I quite liked. So, that was one of the reasons that quite attracted me to do it, I suppose. But with all the intensions of being a full time NHS Consultant.” CM3: “When I was coming through, you felt that a Consultant post was a post for life, was a good package generally with it, pension amongst other things and people who were, generally the people above us who were at higher levels, who had gone through the whole thing who very happy, had fulfilling careers, lots of variety and other things involved in it.”
	Opportunity to provide NHS treatment as a Consultant and private treatment in specialist practice	CM3: “It was the self-employed bit, was the bit that interested me coming into dentistry actually, at the start, ironically. I didn’t like hospitals and ironically, I ended up in a hospital career. It’s strange how that happened. For me, it was more to it than that, in terms of yes there was a package, where you got salaried and you got a pension, that was a good package at that time, but you still had the option if you did want to do a bit extra or dip out or do some extra hours, you could still do that. So, for me that was the flexibility bit that I quite liked. So, that was one of the reasons that quite attracted me to do it, I suppose. But with all the intensions of being a full time NHS Consultant.”
	Career variety	CM3: “Yeah and that’s one of the other things, it offers you a degree of variety that’s not there in specialist practice or in being a dentist and I certainly enjoy that bit of it. I wouldn’t want to be in the same four walls, in the same practice, whether that is orthodontics or general practice. I’ve never wanted to do that.” CM2: “I wanted to become an orthodontist because I got to the end of dentistry and thought I can’t do this for the next 30-40 years, what shall I do? I didn’t want to do maxfacs because I didn’t want to be an undergraduate again and I thought I’ll give

		orthodontics a go and then I got towards the end of the orthodontist course and I thought I don't want to do this in practice for the next 30-40 years, I'll be a consultant because I don't want to run a business. Then after 10 years I thought I'm a bit bored of this, so is there an academic route?"
	Clinical freedom	CM2: "Money was not a motivator for me. Job satisfaction was a bigger motivator for me. I didn't want to run a business. The practices I worked in weren't that great in the general practices, I only did it part time. I just liked the clinical freedom of being in a hospital and not be thinking how much have I earnt today? Which is what I was doing in practice. Sometimes when it didn't cover your petrol money to get there, you think why am I doing this? So, it just didn't appeal to me at all."
	Hospital environment	CM1: "You look at specialist practice and it can be turnover, turnover, turnover and we have despite, you hear grumblings around, the core of our job is really good. The core of the job, you treat some really complicated things in a safe environment where you've got colleagues around you that you can ask for advice or indeed pass it over or otherwise. So, it's a good environment to do things in that test you. Yeah so as a job, it's a terrific job." CM2: "Money was not a motivator for me. Job satisfaction was a bigger motivator for me. I didn't want to run a business. The practices I worked in weren't that great in the general practices, I only did it part time. I just liked the clinical freedom of being in a hospital and not be thinking how much have I earnt today? Which is what I was doing in practice. Sometimes when it didn't cover your petrol money to get there, you think why am I doing this? So, it just didn't appeal to me at all."
	Orthodontic team	CM1: "You look at specialist practice and it can be turnover, turnover, turnover and we have despite, you hear grumblings around, the core of our job is really good. The core of the job, you treat some really complicated things in a safe environment where you've got colleagues around you that you can ask for advice or indeed pass it over or otherwise. So, it's a good environment to do things in that test you. Yeah so as a job, it's a terrific job." CM2: "I think you are inspired by the people that teach you. When I was an undergrad, I had two really good teachers. Neither of them where consultants, both were senior registrars, who were still enthusiastic, really up to date and very good.

		Then later on, we had the Prof in the department who was again, very inspiring. Yeah, so I would say it is the people around you. And then moving on again when you find your consultant job, you tend not to look at the location but the people there again. I've been very fortunate with the people I've worked with and I like coming to work, interacting with the people and that's both at the hospital and the university."
Comparisons between orthodontics and maxillofacial surgery	Working patterns/on call commitments	CM1: "I did maxfacs for a year, just thought midway through that I didn't want to do medicine. I didn't fancy being on call when I was 45."
	Additional undergraduate degree required for maxillofacial surgery	CM2: "I wanted to become an orthodontist because I got to the end of dentistry and thought I can't do this for the next 30-40 years, what shall I do? I didn't want to do maxfacs because I didn't want to be an undergraduate again and I thought I'll give orthodontics a go and then I got towards the end of the orthodontist course and I thought I don't want to do this in practice for the next 30-40 years, I'll be a consultant because I don't want to run a business. Then after 10 years I thought I'm a bit bored of this, so is there an academic route?" CM2: "It was a process of elimination. In dentistry there aren't that many options when you get to the end of it. If you're in medicine you've got loads of options, you're just really at the beginning of the journey and with dentistry you've got to the end of it and what are you going to do now? I don't want it to sound like it was a second-rate thing, but it was actually a process of elimination that didn't take very long for me. Like CM3 said the other thing, would you do maxfacs? The idea of doing medicine for another four or five years and being virtually at the same point again didn't appeal to me." CM1: "I couldn't give you the date, but I can remember the scenario. I was walking around the hospital, on call and this was the times when my on call started, I'd do it all day Friday treatment, clinic, whatever, it would start 5 pm on Friday and end 8 am on Monday." CM3: "I remember those weekends." CM1: "Sometimes you're busy, sometimes you're not, sometimes up at night, sometimes not and I remember walking around at some silly hour in the middle of the night and I remember thinking, I'd just got bleeped to the ward, something simple,

		sorted it out, came back and I remember thinking do I want to do this? Go back to medicine, five more years of just being a medic again then do your essential SHO years and then you're going to start your training. So, you're looking at least 10 years before you are out of this environment and I was slightly older. I was by the time of finishing university 27, so I was already almost 30, 29, 30. Do I want to do this when I'm 40 and be here? No, that's just. I enjoyed it, but that's not for me."
	Role models	CM3: "I left dental school with only 2 areas that I enjoyed doing, orthodontics was one of those, maxfacs or medicine was the other area. My first job was a surgeon. I worked in Northern Ireland and I had the displeasure of working for one of the biggest bullies that I've ever worked for in my entire career. He stabbed me with a 2-0 silk needle on two occasions in theatre because I didn't retract well enough. So, that put me off being a maxfac surgeon because I didn't want to end up like that. I remember sitting in my final year dinner with an orthodontist who was here at the time and she said to me I'd be an orthodontist and hey presto she was right, because I decided at the time, I didn't want to end up like some maxfac surgeons that I've met. Orthodontists seem to be such a happy bunch."
	Length of maxillofacial training pathway	CM2: "It was a process of elimination. In dentistry there aren't that many options when you get to the end of it. If you're in medicine you've got loads of options, you're just really at the beginning of the journey and with dentistry you've got to the end of it and what are you going to do now? I don't want it to sound like it was a second-rate thing, but it was actually a process of elimination that didn't take very long for me. Like CM3 said the other thing, would you do maxfacs? The idea of doing medicine for another four or five years and being virtually at the same point again didn't appeal to me." CM1: "I couldn't give you the date, but I can remember the scenario. I was walking around the hospital, on call and this was the times when my on call started, I'd do it all day Friday treatment, clinic, whatever, it would start 5 pm on Friday and end 8 am on Monday." CM3: "I remember those weekends." CM1: "Sometimes you're busy, sometimes you're not, sometimes up at night, sometimes not and I remember walking around at some silly hour in the middle of the night and I remember thinking, I'd just got bleeped to the ward, something simple,

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Facilitators during career progression	Role models • Perception of orthodontists	CM1: "You get to post SHO and you think what can you do? You either go back to being a dentist or you think what was I quite good at and what did I like? Which is why, it was either going to be restorative dentistry or orthodontics. They are my hats, I'm a technician, so they are my hats and it was just, I liked ortho. Prof B is right, I enjoyed it here and I think when it comes to facilitators and barriers the greatest thing is someone who inspires, you to do something and it is. Prof said this is good, I like my job. If you like your job, you're going to inspire people." CM3: "I remember sitting in my final year dinner with an orthodontist who was here at the time and she said to me I'd be an orthodontist and hey presto she was right, because I decided at the time, I didn't want to end up like some maxfac surgeons that I've met. Orthodontists seem to be such a happy bunch." CM2: "I think you are inspired by the people that teach you. When I was an undergrad, I had two really good teachers. Neither of them where consultants, both were senior registrars, who were still enthusiastic, really up to date and very good. Then later on, we had the Prof in the department who was again, very inspiring. Yeah, so I would say it is the people around you. And then moving on again when you find your consultant job, you tend not to look at the location but the people there again. I've been very fortunate with the people I've worked with and I like coming to work, interacting with the people and that's both at the hospital and the university." CM1: "It is the people around you that inspire you because if you're not going to be happy on your own and everybody around you is putting you down or putting their job down, it's just a trapped environment. People here are generally happy and even for all of the hassle of this building, you've heard or witnessed over the last 10 years

		or whatever, the core people that do the job and you work with like their jobs and that's good." CM3: "Yeah, we didn't have mentors or those sorts of things in our day. There weren't those sorts of posts around, so it's just the people that you work with and they ticked a box for you in terms of they were a slight inspiration for a reason, or they weren't. They are the sort of people that help you and mould your decision making into where you have ended up."
	Support • Work place • Family/partner	CM2: "I have a very understanding wife, who has supported me all the way through, who has never said why are you doing that. This is what I want to do and its fine. So, doing a PhD, I did a PhD in London, but I was working in Bath, so every other weekend I was in London as well and we had two kids, but you make it work. If your partner is supportive it can work. If you can't, I don't know how you do it because there is an awful lot to do. The course is intense, senior registrar training was longer for me, it was three years, but we didn't have an exam at the end, so it wasn't as intense like that. I started a PhD as a senior registrar and then finished it as a consultant, as its five years part time. Also, for my family, I got free board and lodging in London, you know, you do need an awful lot of support. You just take it for granted when it is happening. It is not until you look back and you think I did have an awful lot of support."
	Ease of continuing training	CM1: "I truly didn't even know that orthodontics was competitive. I took a punt, applied, got very lucky, someone who's ended up being my trainer, decided I had something he related to, got in, did the course, got to the end, was lazy and applied for a FTTA, rather than, because it was easier then looking for a job and then at the end of that, fortunately a job became available and I became a Consultant."
	Comparison between specialities	CM2: "It was a process of elimination. In dentistry there aren't that many options when you get to the end of it. If you're in medicine you've got loads of options, you're just really at the beginning of the journey and with dentistry you've got to the end of it and what are you going to do now? I don't want it to sound like it was a second-rate thing, but it was actually a process of elimination that didn't take very long for me. Like CM3 said the other thing, would you do maxfacs? The idea of doing medicine for another four or five years and being virtually at the same point again didn't appeal to me."

		CM1: “You get to post SHO and you think what can you do? You either go back to being a dentist or you think what was I quite good at and what did I like? Which is why, it was either going to be restorative dentistry or orthodontics. They are my hats, I’m a technician, so they are my hats and it was just, I liked ortho. Prof B is right, I enjoyed it here and I think when it comes to facilitators and barriers the greatest thing is someone who inspires, you to do something and it is. Prof said this is good, I like my job. If you like your job, you’re going to inspire people.”
	In control over future career	CM1: “You pick something, you’re given the opportunity to pick something and ultimately, we’re very lucky. You’ve got a good job and you think, what can I do more and think if you don’t like it, you can change. The day you get to the front door and you don’t want to go through it, that’s the day to think do something else.”
Non-determinate factors during career progression	Work-life balance	CM3: “On a work-life type balance, I’ve felt it was slightly different because I’ve felt like I was in a race to get somewhere and those other things just got left to the side a little bit until I’d got there. Life, family life came into it afterwards. It wasn’t on the stack of options until I got somewhere and getting somewhere was being a consultant, as strange as that might seem, that was it.” JJ: “Was the work-life balance a factor for you going into?” CM3: “Didn’t even think of it.” CM2: “No.” CM3: “That didn’t even cross my mind either.” CM1: “It didn’t cross my mind either.”
	Salary	CM2: “Money was not a motivator for me. Job satisfaction was a bigger motivator for me. I didn’t want to run a business. The practices I worked in weren’t that great in the general practices, I only did it part time. I just liked the clinical freedom of being in a hospital and not be thinking how much have I earnt today? Which is what I was doing in practice. Sometimes when it didn’t cover your petrol money to get there, you think why am I doing this? So, it just didn’t appeal to me at all.” CM1: “Yeah, it’s not about the money. Never has.”
	Nature of national recruitment	JJ: “What do you think about the competitive nature of recruitment?” CM3: “It’s always been competitive. I don’t have a problem with that. I think what is lacking now, at some levels, is real competition actually.”

		CM2: “I mean we had a whole day of interviews, along the lines of national recruitment, we had to bend wire, do presentations and all that. It was hard and there were lots of people going for it. So, when you got a place, you thought, I’ve worked hard to get this.”
Specialist practice	Disadvantages • Volume of patients • Self-employment • NHS Contracts	CM1: “You look at specialist practice and it can be turnover, turnover, turnover and we have despite, you hear grumblings around, the core of our job is really good. The core of the job, you treat some really complicated things in a safe environment where you’ve got colleagues around you that you can ask for advice or indeed pass it over or otherwise. So, it’s a good environment to do things in that test you. Yeah so as a job, it’s a terrific job.”
	Advantages • Ability to provide treatment not available on the NHS • Variety • Challenge	CM3: “Whereas practice now for me is not about the money as such. It’s about the other bits that you can’t do in the hospital anymore. Using lingual and doing Invisalign because they interest me to do, bit more, something different, again variety.” CM1: “Yeah, practice provides me with variety. It just challenges me in a different manner. I’ve got no doubts that some weeks I walk in there thinking, have I been paid my petrol money? And other times you do. But it wasn’t about being self-employed. I didn’t want to be my own boss.” CM1: “You certainly earn more money in practice then you do as an orthodontic Consultant, but we earn good money.”
Academia	Reasons to not pursue a career in academia Lack of clinical time • Mentors • Reduced clinical time	CM3: “I mean for me, it was, when I was at Manchester and I did my masters at Manchester, I went to my supervisor who will remain nameless, and asked him, I need a bit of help with this and he just told me to go away and read a book that he suggested, which could have existed, might have existed, might not have existed knowing him. It was just a sort of, lack of, just not really, wanting to be there for that sort of thing, made me think, not sure I really like that. I didn’t really have a positive, and the other academics in that department were not happy, which is a probably a good way of putting it and the other one was never there, which I should have taken some note of, because he was always somewhere else. So, there didn’t seem much of a, cohesive team or anything else like that. I’ve naturally sort of gone into a team, a

		small team of people and I quite like that. So that lack of that at Manchester had a bit of a bearing on me saying, academia is not really for me." CM1: "I don't think I could do it, if I'm honest. My strength are my hands, I like doing mechanics. Throughout my education I've never been the cleverest man. I'm happy with that. I work hard, but I like working with my hands. And that's fine. That's my, I've hit my barrier and I'm fine with that. I like doing the job with my hands."
	Reasons to pursue a career in academia • Enjoyment • Mentors • Gaining additional knowledge • Variety • Interaction with different academic specialities	CM2: "I was very fortunate in that O said, do you want to do a PhD? I really like working with him. He is, his style suits me. It was just I really enjoyed it, I absolutely loved it. You know you're doing something unique; you know more about it than anyone else and the academic banter that you could have with him and the other people in the department I just find fascinating so that just ticked that box off. I didn't think I would do anything else. And then its circumstance, so we have P who is here, and he said, what are you going to do? Are you going to keep on doing what you are doing now? I said I don't know. He said, well, Q is retiring, do you want to come in three days a week? And I said, certainly not. He said, do you want to come in two? And I said, yeah alright and that was it. You know, so it's just, I have to say that came for me at the right time. I had been a Consultant for 10 years then and you know you get used to your routine and you think actually I know how to do this now and I need some challenges and that came at the right time. I've been very fortunate that things have just happened, and you make some of your own luck by being prepared in advance, by having the PhD and that." CM2: "When you come to apply for a place like this and you're supervising the students, you contact other people. You know talk to R, do you want to supervisor a project, yeah, and I'm learning about this project, that I know nothing about, and you get it the same in chemistry, mechanical engineering. I know nothing about these things, but I find it fascinating talking to other people from different disciplines. I've been very lucky."
Orthodontic specialty training	Perceived barriers for ST1-3 • Debt	CM3: "I think we are in danger of making them all specialisations, ortho in particular unattractive, because there is no like nice, practice isn't looking rosy at the moment, hospital isn't looking that rosy."

	• Cost of training • Salary compared to specialist practice	CM2: “Particularly when you are paying so much to do it, because you’re paying £9000 a year, plus your bench fees and you’re probably not earning as much as you could be, as if you were just in general practice. So, there’s a double whammy there, whereas I was quite happy to take the general practice hit and know I wasn’t going to get paid as much but I didn’t pay very big fees at all.” CM2: “Because if you are coming out with a big undergraduate debt, you end up with a big postgraduate debt and you think well I’ve got to pay this back somehow. I’m not saying we’re poor, relative to the average wage it’s still pretty good, but you are training for a long time which is costing money.”
	Perceived barriers for ST4-5	CM3: “And there’s not the same attraction with the end product either. When I was coming through, you felt that a Consultant post was a post for life, was a good package generally with it, pension amongst other things and people who were, generally the people above us who were at higher levels, who had gone through the whole thing who very happy, had fulfilling careers, lots of variety and other things involved in it. Even cherry picked to some degree, what they did and didn’t do. Had a lot of autonomy and now you look at the workforce and generally speaking those things aren’t there. They are there to some degree, but much less so. So, therefore the end thing that you are working for, is less attractive, but the process to go through seems more challenging and doesn’t necessarily prepare you better either, because clinically that’s the majority of what you are going to do.” CM1: “I think debt has got more. It’s a good job and it’s a shame in some ways that you used to look at say consultants not just medical, dental as being top of the tree if you like, aspirational and many reasons for that and at the forefront. People would come to you and say try this out, all that sort of stuff. Those days have definitely gone, we’re no longer seen, people don’t aspire to be consultants often, not so much as they once did.” CM1: “I guess when you come out if you are faced with, an opportunity to turn left and earn £100,000 without doing more training and pay it off quicker or turn right earning £50,000 and you’re still paying your debt off and you’ve got £80,000 worth of

		debt and you don't need to move and maybe you've got a partner and maybe you'd like to buy a house or commit to something, I'm sure it would change your mind set. I get that, clearly, I get that."
	Current issues with post CCST training • Lack of filled posts • Length of post-CCST training • Focus of STRs on ISFE • Patient case load • Nature of post CCST training • Pressure • Number of study days • Lack of flexibility in the NHS • NHS contracts • Nature of national recruitment	CM2: "Now, I mean when I see the senior registrars now, they seem entirely focused on the exam, which comes too soon, at two years. They look like rabbits caught in the headlamps from day one to me. Their training is very structured in that, they have some away days and things like that. But actually, I think you just need to be treating lots of patients." CM1: "Even over our 13 years, the difference in the exam is massive." CM2: "It's huge." CM1: "People are worried about it now, when you shouldn't be worried about it." CM2: "I was very fortunate in that I got a letter at the end that said, we've been watching you, you're fine. But, now it's all about critical appraisal and management skills and one third of it, is treating the patients. And actually, the management skills, you'll learn when you turn up somewhere because they are different in every place. And critical appraisal can't we have ticked that off when you're doing your specialist training in your first three years? You've done a literature review, you've done a DDS, journal clubs every fortnight and now you're expected to be a statistician and a researcher that's meant to know how to set up projects. I think it's got out of hand. I think the people that are setting the exams have got it wrong. So, that would put me off." CM1: "Yeah and in fairness, it would put me off too." CM2: "I think I would have gone into practice." CM1: "Yeah, being faced with that because you're right, for MOrth, you do your stats, you learn your stats for the exam and learn the bits you need to know but you don't become a statistician. That's why you talk to statisticians, they're good at that." CM3: "And there's not the same attraction with the end product either. When I was coming through, you felt that a Consultant post was a post for life, was a good package generally with it, pension amongst other things and people who were, generally the people above us who were at higher levels, who had gone through the whole thing who very happy, had fulfilling careers, lots of variety and other things involved in it. Even cherry picked to some degree, what they did and didn't do. Had a lot of autonomy and now you look at the workforce and generally speaking those

		things aren't there. They are there to some degree, but much less so. So, therefore the end thing that you are working for, is less attractive, but the process to go through seems more challenging and doesn't necessarily prepare you better either, because clinically that's the majority of what you are going to do." CM3: "What worries me now is people coming into jobs and there is no flex and they say they want to do other stuff and it's like no, can't do that because you've got to be doing this and there isn't that degree of being able to say well for the next five years I'll do this, or I'll concentrate on this being my priority and then change a bit, attack my PhD or whatever it is you want to do and I don't think that ability to be able to do that is so easy, so that makes it less attractive I think for people." CM2: "I think CM3 has also hit on the point also that financially you always thought that Consultants were really well off, but you hear of junior doctors contracts being talked about and being basically a pay cut, you're talking about Consultant pay cuts and then lifetime allowance on pensions, annual allowance on some pensions and you get to the point and you think, well why am I doing this? I should go into practice but then again there is so many changes in practice at the moment." CM1: "You certainly earn more money in practice then you do as an orthodontic Consultant, but we earn good money. I suppose, we're all from similar backgrounds, but we know we earn good money and it's just you can't earn as much. You still earn a bloody good salary, but you could earn more doing different stuff elsewhere. It must be a factor and if you're coming out and you've got the opportunity to earn money to pay off your debts. My bench fees were three grand full stop, 1800, 1800, 1200 for all of it. You come out now, university charge £9000 and bench fees. I mean, how dare they charge £9000, I cannot understand how the university can charge you £9000. You do not get £9000 worth, in my eyes, more than what we did. I don't understand how they can charge that. It's almost like over the years it used to be graded all of a sudden, its £9000, 9 plus 9 plus 9 plus bench fees on top of it and you've already come out with potential undergraduate debt. I worked throughout university. I minimised mine and worked on phone lines and stuff like that. I guess when you come out if you are faced with, an opportunity to turn left and earn £100,000 without doing more training and pay it off quicker or turn right earning £50,000 and you're still

		paying your debt off and you've got £80,000 worth of debt and you don't need to move and maybe you've got a partner and maybe you'd like to buy a house or commit to something, I'm sure it would change your mind set. I get that, clearly, I get that." JJ: "What do you think about the length of training?" CM2: "It's too short if you are going to become a consultant. Its five years, it should be at least 6. I mean three years to be a specialist, three years as a senior registrar. It goes so quickly." CM1: "It's not even that really, you start in the October time and you're finished the following May, you're in half time." CM2: "So, you see some, the FTTAs now don't see a lot of finished cases. when you pitch up, day one as a Consultant, on your own, with nobody around you, and I know it's only teeth, but you think I've got to make the decisions now, there's no one else to turn to. So, I don't get regret three years, it goes so quickly. I think it's too short." CM1: "Yeah, I agree with that. Too short and maybe wrong focus." CM2: "Yeah, focus is wrong." CM3: "Yeah, I think they've lost the focus actually." JJ: "What do you think about the competitive nature of recruitment?" CM3: "It's always been competitive. I don't have a problem with that. I think what is lacking now, at some levels, is real competition actually." JJ: "Do you think the location has anything to do with people not applying for FTTA?" CM1: "Has to be. If you combine that with the debt question. If you're coming out with, pick a number you like, and you are relocating." CM2: "Also, there is no competition. So, actually if you have a choice of going to half a different places, you'll narrow it down and say that's the one I want to go to. For me, it was where is there a job? It's three years, I'll go anywhere. Whereas now there is no competition, people will choose more. Perhaps we were all, I mean we're three old farts and we've all said we never thought about the consequences of training. You just did it and the support was there fortunately for me, you just did it. Whereas now

		there is more of an emphasis on work-life balance. You hear it all the time. What's your work-life balance like? I don't know, I just go to work."
Maternity leave during orthodontic training and the 18 months continuous training rule	Complicated issue	JJ: "What do you think about the 18 months continuous training rule on women going on to have maternity?" CM2: "Maternity leave is tricky for a course like ours, in that it is a three-year course and we haven't got a course every year. So, you can't say I'll come back in any time. Does it have to be 18 months continuous? I'm not sure it does, I mean if you do a three-year programme and you take four-years to do it, I don't think it really matters. I can't see the idea where it has to be 18 months." CM2: "I think if you do the time, it doesn't matter. I'm just not sure the 18 months make sense." CM3: "I'm sure it does to someone." CM1: "The difficulty is, there is a knock-on effect to it, which doesn't affect the trainee. But a course like this one, or any one, where numbers are tied, numbers come with funding, there is a knock-on effect and there might be a, hopefully on this course, a pressure on people to not have babies or because of the maternity. The pressure of your three years are bang and you must give your number back in and I think as a trainee, you just have to do your time and that's right for them as well as anyone else."
Emotional motifs	Luck	CM1: "You pick something, you're given the opportunity to pick something and ultimately, we're very lucky. You've got a good job and you think, what can I do more and think if you don't like it, you can change. The day you get to the front door and you don't want to go through it, that's the day to think do something else." CM1: "I've been quite lucky throughout my career. Part of that has been being in the right place at the right time, I think." CM2: "I was very fortunate in that O said, do you want to do a PhD? I really like working with him. He is, his style suits me. It was just I really enjoyed it, I absolutely loved it. You know you're doing something unique; you know more about it than anyone else and the academic banter that you could have with him and the other people in the department I just find fascinating so that just ticked that box off. I didn't think I would do anything else. And then its circumstance, so we have P who is here,

		and he said, what are you going to do? Are you going to keep on doing what you are doing now? I said I don't know. He said, well, Q is retiring, do you want to come in three days a week? And I said, certainly not. He said, do you want to come in two? And I said, yeah alright and that was it. You know, so it's just, I have to say that came for me at the right time. I had been a Consultant for 10 years then and you know you get used to your routine and you think actually I know how to do this now and I need some challenges and that came at the right time. I've been very fortunate that things have just happened, and you make some of your own luck by being prepared in advance, by having the PhD and that." CM2: "When you come to apply for a place like this and you're supervising the students, you contact other people. You know talk to R, do you want to supervisor a project, yeah, and I'm learning about this project, that I know nothing about, and you get it the same in chemistry, mechanical engineering. I know nothing about these things, but I find it fascinating talking to other people from different disciplines. I've been very lucky." CM3: "I've worked at carving out what I wanted to do and also things have fallen across my path as I've gone along, and I've thought, yeah, I'll give that a go. I've been lucky enough to have some flex and be able to do those things."
	Fate	CM2: "It's funny how fate plays a role and you stumble into things. So, CM1 is in the practice that I'm in and I've been doing it for 25,26 years. But it was the principal of the practice that rang me when I had just started as a Consultant and said do you want to do practice in my practice? And I went, yeah alright. I mean, to do an academic career you need to do a PhD and how did I do that? I didn't go in and think I want to do a PhD. My supervisor who I have known for 30 years now, we get on so well said, do you want to do a PhD and I sort of went, yeah alright. It's not planned, I want to be a dentist and then things happen after that because you think the alternative is this, but for me, it was never that's what I want to be."

Appendix VII: Transcriptions of the Data

Appendix VII.1: Fourth year undergraduate female dental student focus group transcriptions 22/06/2018

People present:

Jenifer Jopson (investigator) - JJ

Dr Patricia Neville (acting as notetaker)

Participants:

DSF1

DSF2

DSF3 joined at 10 minutes.

Introduction to focus group

JJ. 1. Have you considered orthodontics as a career option?

DSF1: yes

DSF2: yeah definitely

JJ. 2. Why have you considered orthodontics as a career option?

DSF1: I think it is to do with my experiences on clinic. It is more to do with planning cases and the patient genre is younger, this really attracts me. Also, another thing is that you only take on cooperative patients, so I feel like that in itself is a rewarding aspect of the career that you are dealing with cooperative patients as opposed to side tracking because the patients not cooperative. Yeah, I think that's one of the reasons.

DSF2: I would say that when I was at school, one of my favourite subjects was physics so I got to dentistry and was like I really understand the principles of orthodontics and I really do get the forces and when I talk to supervisors I do really understand the concepts. For me, if I understand something, I enjoy doing it and orthodontics clicks.

DSF1: Also when you said orthodontics was a really popular career choice, I think the reason for that is a lot of people associate dentistry with orthodontics like oh do you know how to straighten teeth then and I think its such a common thing now, people want their teeth straight and appearance is a huge thing. I think it would be nice to contribute towards that. I really like that social side of orthodontics. I also had it myself and the whole experience was amazing, the difference from before and after, so it would be really nice to provide that for patients.

DSF2: Yeah, I think it would be really rewarding because you do get those patients that are at that age when they are so self-conscious, like you're so self-conscious as a teenager and for them like, I didn't really smile really until I got my braces off.

DSF1: I also think it is a lot to do with planning. I would really like to plan cases properly like fully understand what I'm doing before I go right, we're going to do a filling now spontaneously. I think orthodontics is about you've got the lateral cephs you then study it yourself in your own time, then you create a treatment plan using the physics. I'm not too keen on physics myself but then after doing that its basically the same after in terms of you apply…

DSF2: You've got a plan and it's not going to go off track majorly. You've got your end goal and I like that.

JJ. 3. Has there been anything in particular that has helped you make that decision?

DSF2: I would say the teaching here is really good. I know at other dental schools you don't do it, so like that would be why. Dr A when he talks about his patients and the way he loves ortho, like he was a technician before, and we have interesting conversations about physics.

DSF1: It is also one of the only departments where we are taught by actual professors like Professor B and consultants like Dr C where in restorative it's more like general dentists, in paediatrics we do get taught by consultants but even then, they bring in orthodontists, so I feel like they are always a point of referral. Even on restorative it is always like we need an orthodontic opinion so in that part they seem to play a huge part.

DSF2: Yeah, the way we are taught here is really good and makes me more interested.

JJ. 4. So you both had orthodontics when you were younger, is there anything positive from that experience that influenced your decision.

DSF1: To be honest my orthodontist wasn't the best, but my sister's orthodontists was amazing, so I guess it does play a part because he actually gave me work experience in that same hospital. He was amazing the way he went through it all, it really inspired me.

DSF2: Yeah, I think I would say that my orthodontist at home was great at explaining, so I think that when I got in to dentistry I felt like I knew a lot more about things because it had happened to me. Like when you go to the dentist, he'll say we just need to clean your teeth, so yeah, the orthodontist, she was really good.

JJ. 5. So do you perceive any barriers in pursuing a career in orthodontics?

DSF2: Do you mean personal barriers?

JJ. Yes, or anything that you think that might make it difficult to go down this career path.

DSF1: Is it a full-time post or specialty?

JJ. Yes.

DSF1: I think it's probably the thought that it is going to take another three years to specialise whereas if you take implantology, you can do a year course or even part time where orthodontics is very full on and it will depend on where I am in my life, as in if I do get married will that play a part or if I have children in the future would that make it more difficult to then go into orthodontics. So that could potentially be a barrier.

DSF2: I would just say that even though it's so competitive that wouldn't put me off, I would like that challenge. Having said that at the same time I would have to accept that if I didn't get in then that would be a barrier. I would be annoyed at that.

DSF1: I guess what I said links to gender. It depends on what point in your life you're at.

DSF2: How much does it cost to do it? I'm not sure if that would be a barrier to me.

DSF3: came in at this point – 10 minutes

JJ: The academic component is £12,000 but you do get paid a salary whilst you are doing your training, which is £46,000. Question to DSF3: do you have any thoughts on what might hinder you in pursuing a career in orthodontics?

DSF3: The length of training – how long it takes.

JJ: Recap of training pathway. Dental degree, then Dental foundation training, then Dental core training in hospital (minimum two years) then able to apply for orthodontics. Orthodontic training to become a specialist takes three years.

DSF1: If you do your two years in the hospital and then apply for orthodontics and don't get in, is there a possibility of applying for another specialty?

JJ: So, you can do up to three years in the hospital doing dental core training.

DSF1: For me it really is the time it takes.

DSF2: So when you applied did you apply directly to Bristol?

JJ: No, I applied nationally. I bit like you will need to do for your dental foundation training. Do you know about that yet?

DS1,2,3: Yes

DS1: That would worry me then, location wise. I wouldn't like being really far away from where I had already settled.

DSF3: If you want to start a family and then moving around, it's stressful

DSF1,2: Yeah

DSF2: But it's 9-5 then studying as extra.

DSF1: Even if you are in Bristol, you still need to travel to Bath.

JJ: So, let's imagine you got into orthodontics and you were on the pathway to become a specialist do you have any ideas where you would like your career to go after that?

DSF1: I've got another point. I think I would want to compare all the specialities that I'm interested in and then compare where they are location wise, how competitive they are, earnings wise.

JJ: So, if for example the location and money was better in paediatric dentistry, would that sway you to choose that specialty?

DSF1: If what I could earn in orthodontics was sufficient, I don't see why it would. It does depend on my time, like if I need to set up a family.

JJ: So, if you can imagine you are where I am now in my career do you have any thoughts on future career plans?

DSF2: So, once you are a specialist how do you become a consultant?

JJ: Once you are a specialist you need to do a further 2 years of training as a senior registrar.

DSF2: I think I would like to become a consultant. I don't know why I think this is a possibility, but I would like to do orthodontics 2-3 days a week and general practice 2 days a week.

DSF1: Yeah that would be nice.

DGS2: Mix it up a bit.

JJ: Is there any reason why you would like to mix up your working week?

DSF2: I don't think I'd like the age of the patients. I love it upstairs when I have an adult patient.

DSF3: So, I think our tutor Mr C said you can have an interest in orthodontics and put a brace on without doing the training.

JJ: Yes, there are things you can do if you want to become a dentist with a special interest in orthodontics like a masters.

DSF3: So, what's the difference between a dentist with a special interest and a specialist or consultant.

JJ: As a consultant you are dealing with complex orthodontic problems like orthognathic surgery. For me doing the training provides you with a solid knowledge base and confidence.

DSF3: For me I would like to do the training but work in an orthodontic practice.

DSF1: I think I would like to do what you said and work three days as an orthodontist and two days in general practice. Not for the reasons you gave but because I don't think that orthodontics is that technically challenging and I think I would miss the restorative elements. I like making fillings look good and I like the aesthetic component of that. I want to do something else other than place brackets. Also, I wouldn't want to be deskilled from doing a root canal treatment or filling or something. I want to keep my skills open.

DSF3: Can you provide normal treatment? Like if you are working in an orthodontic practice can you still provide normal treatment in the same building?

JJ: That might be more a general dentist that has a special interest in orthodontics that is then able to provide general dentistry and orthodontic treatment.

DSF3: If you did that would that be private or NHS?

JJ: That might be more private. NHS orthodontics is usually limited to children under the age of 18 or adults that require more complex procedures.

DSF1: But the specialty itself is quite flexible. So, you could end up working in practice and if you don't really enjoy it you could work full time as an orthodontist. If you didn't like the full-time element you could go part time. So, any of those are flexible. It doesn't mean that if you miss out on working in a private clinic you can't change and do that later on. Does it? Is there anything that would hinder your future possibilities?

JJ: I think that for the people that are actually doing orthodontic specialty training we are all leaving behind general dentistry. So, I think when you do orthodontic specialty training you only want to do orthodontics. I have friends that are general dentists that want to tap into

orthodontics but because they haven't had the formal training, they can't always treat complex cases and still need to refer cases off.

DSF1: So, are you saying that when you go into orthodontics you need to have that mind where you need to sacrifice, I guess the other parts of dentistry?

JJ: I think because it's so competitive you have to really want to do it because it's a really big commitment to try and get in and I feel you have to make sacrifices along the way to get in so if you weren't 100 % certain you might not put the work in to tick all the criteria.

DSF1: At what point did you decide that orthodontics was right? Like we're fourth years now.

JJ: I was a peninsula graduate, so I didn't have the same training as you where we had the opportunity to treat orthodontic patients, so I needed the DCT years in hospital to try and focus on what I wanted to do. I was really open when I left dental school and VT about what I wanted to do. For me the maxfac year was a great opportunity to decide because I was in a department with orthodontists, oral surgeons, restorative dentists and you could tap into the different specialties and shadow the different departments and it was then that I decided that orthodontics was something that I wanted to do. For me I didn't really like my VT year and working for the NHS, in that I could see if I was to stay as a general dentist I may have to make comprises when treating patients on the NHS. I didn't want to be part of the UDA system, where the more you do the more you get paid. I wanted to have a salary where I could focus on doing the right thing and not worry about being paid.

DSF3: Do you have salaried positions in orthodontics?

JJ: Yes, so if you work in specialist practice just like in general practice it's on a UDA like system. If you work in the hospital you're employed and have a salary.

DSF3: I thought that you got paid this many thousand pounds for an adult treatment?

JJ: I think that is private.

DSF3: So, do they pay that all in one go?

JJ: So, they might have a practice plan.

DSF3: So, is that through the practice and then you work for the practice?

JJ: So, it'll be the same as if you work as a general dentist, so you'll have a practice principle, you're then self-employed but they'll have an agreement with you that you charge x amount for that, they might take 50 % off you.

DSF1: I think what this is highlighting is that we need a bit more information like we don't really know anything about specialty training. Like we know what the specialty is, so we could tell you that orthodontics is…

DSF3: I mean we do a lot of ortho

DSF1: I know I know I mean we don't know like the ways of getting into it, what you can do as a result of it, the pay, how the pay works, like the private system.

DSF3: Yeah like I don't really know what a UDA is.

DSF1: Yeah so to us we don't really know what is going on, we're just here like being at the dental hospital giving everything for free.

JJ: I mean it isn't anything for you to worry about now and it will probably something that is covered in your fifth year. The UDAs are just a way of being paid, so you will agree a target of what you think you can achieve. They will then pay you for one unit for example that might equal £10. You then have to take away your lab bills.

DSF3: The reason why I'm asking is because where is the guidance on how much you are meant to charge a patient for private treatment?

JJ: So that's the problem for any private treatment, whitening, private root canal.

DSF3: So, you can literally pick the price?

JJ: As someone in private practice yes.

DSF3: So, I could say I want £350 for this?

DSF1: Did you not hear Prof D say it was £5000 for some GICs?

DSF3: No

DSF2: So, the question that you asked was where do you see yourself going? So, when I said I'd like to be a consultant that is because I would enjoy the hospital environment. Like I would like to be in clinic for a bit. I like the way there is loads of other consultants that you can talk to and compare things and also in hospitals you see cases that are a massive challenge that you don't see outside so I would really enjoy that challenge and would like to go all the way to the top.

JJ: So there's NHS consultants but there is also academic consultants like Prof B that have gone on to do other things.

DSF1: Like publish books.

JJ: Yeah so there's also an academic component.

DSF1: Do they still see patients?

JJ: Yes, they can do.

DSF2: Well that would be good.

DSF1: Yeah

DSF2: Yeah, you'd be keeping up to date.

JJ: So just to touch back on some of the questions that we covered in the beginning, so you've all considered a career in orthodontics is there anything that helped you make that decision?

DSF2: I think when I knew I wanted to do dentistry. I had a few friends that are older than me that were doing it, so they were a couple of years ahead. So, when I was in second year they were in their fifth year and they were having conversations about it then but also whenever someone speaks to you about what you do they always ask what do you want to do after and that makes you think about it. So, then you ask yourself the question. I don't

really know I mean a brace is the only treatment I've had so I've exposure to it personally. Luckily, I haven't had any fillings, so I think that's why.

DSF2: One thing I didn't say because I forgot was the lifestyle in orthodontics especially like a woman that is going to be bringing up a family, orthodontics seems like a nice 9-6 or 8 in morning if you have emergencies. My orthodontist was a woman in a practice with all woman orthodontists and like yeah, I think I wanted her life, like I looked at her and thought she had a desirable life. Her husband was a dentist in general practice downstairs, she was like I pick up the kids from school and he has to stay here because he's working late or whatever. I think because of the age range of the patients you see, no one wants to go to the orthodontist as 8 pm, I'm like that's fine by me, whereas adults that have work probably do need to go in the evening. Kids can kinda get out of school.

DSF3: Like with root canal and stuff there's blood, its less gory, its cleaner.

DSF1: Also, the risks involved in orthodontics aren't as great, like in the other ones you could perforate which could lead to an extraction, whereas in orthodontics. I guess though when you don't get the coupling right and the forces right you could get into trouble, but you are constantly checking it, so I feels its something you can keep an eye on and check without huge risks occurring.

JJ: I think that the litigation generally for orthodontics is higher than for a general dentist, but then that could be related to the people that haven't done training.

DSF2: like teeth can become non-vital.

DSF1: Like with short roots and resorption

JJ: Also, there is the patient's expectations.

DSF1: I guess you're dealing with the whole mouth, maybe I take that back.

JJ: Does anyone else have anything else to add?

DSF2: I think also this is a random point I'm not great with CSL or anything like that and I have fully accepted that

JJ: What is CSL?

DSF1: Oh, Clinical skills

DSF2: I scraped through and I just thought it'll get better in time, but I think if it ever got to a point where I'm like I can't do the crown or whatever then orthodontics sounds nice to me, like you're not going to drill, then that would be that I don't think I'm good enough. At the moment I'm like I'm fine but if there is a point where I think I'm just not as good as other people I'll go back to ortho where I get to stick things on peoples teeth rather than drill.

JJ: Focus group close

Appendix VII.2: Fourth year undergraduate male dental student focus group transcriptions 22/10/2018

People present:

Jenifer Jopson (investigator) - JJ

Dr Patricia Neville (acting as notetaker)

Participants:

DSM1

DSM2

Introduction to focus group

JJ. 1. Have you considered orthodontics as a career option?

DSM1: Yes

DSM2: Just a little bit at the minute

JJ: How much do you know about a career in orthodontics and how you would get into it?

DSM1: I mean I've asked around a little bit, I know you need to be three years as a postgrad, you need to build up a portfolio. They pretty much want you to do kids, paeds for a year, a bit of maxfacs, a bit of general, so you can build a portfolio and apply with that. That's what I've got from other people that have done it.

JJ: Yep, and you know the same?

DSM2: Yeah.

JJ: Well that's really good. So why are you considering a considering a career in orthodontics?

DSM1: Because I enjoy it.

DSM2: Yes, I think it's interesting like, we do it on clinic, obviously its enjoyable, thinking about the way that things work.

DSM1: For me, it's more that people come to see you because they want to see you, they don't come because they have to come, they come because they get a benefit out of it. When you go through it and at the end change someone's appearance and they are really happy with it. I like getting that, I like making people feel good about themselves and happy and all that stuff so for me it fits that point. Also. I can sort of do it, compared to a lot of the other stuff where I'm not as great as it. I've already fitted a full upper on somebody and that's gone alright, not issue with it. So, it's things like that, where I know I am technically competent to do it, it is just getting a bit more experience.

DSM2: Yes, it is good seeing the change happen over a period of time, instead of a denture where it happens instantly.

DSM1: I don't mean to be very blunt; the pay also is a big, big point that makes you want to do ortho. It seems to be a much more stable as a career. From what I've been told being a GDP, generally is going to become harder and more options for employing technicians that are cheaper to do the same work and things like that. So, if you specialise in something you become more desirable, so you can keep your job and it opens doors for you, owning a business and things like that. So, it helps all of these little parts as well. So, financially it is a bit more beneficial to specialise in something.

JJ: So, are you talking about financial security or the finances around orthodontists pay?

DSM1: A bit of both. The security of having a job, owning a business, those things help you be secure but then the pay as well helps. So, it's doing something I enjoy but also getting paid to do it.

DSM2: Yeah, I think we're being told that you have to specialise in order to be successful.

JJ: Where's that come from?

DSM1: The big dog.

JJ: Who's that?

DSM1: Prof E.

DSM2: Also, a lot of the upper years.

DSM1: Prof E said in his lecture on Wednesday that a therapist can do 70 % of what a dentist can do, so why do they need so many dentists. Therapists will work for cheaper. So therefore, it is better to specialise in order to keep a job.

JJ: Do you feel the same?

DSM2: Yeah.

JJ: So, you have touched upon being self-employed in practice but there is a career you can have in hospital. Is the reason you'd like to do orthodontics so that you can be in practice as opposed to the hospital?

DSM1: A bit of both. I would like doing either so long as I get the qualification and the skill. In the hospital you can develop skills and see cases you wouldn't normally see in practice. But in practice, that's where it gives you that whole little thing, your little baby to look after.

DSM2: I don't think I would mind working in the hospital for a short period of time but I'm not sure it is something I would like to do long term.

JJ: Why is that?

DSM2: I'm not really sure. It's just like, I'm not too sure to be honest.

JJ: That's alright. So, is there anything in particular that has helped you make your decision to pursue a career in orthodontics?

DSM2: Clinics. I know some universities don't do a lot of orthodontic training but in Bristol we have clinics every 2 weeks, where we get to do hands on things and have tutorials and teaching about it. That's definitely influenced that.

DSM1: That's the main thing. Also knowing people that have had work done throughout school and stuff and how much it affects them having it or after having it.

JJ: What about mentors?

DSM1: My personal tutor is one of the Professors. Professor B, he's my personal tutor, so as soon as I realised, I had him I thought I might be able to. Well I wasn't sure what I wanted to specialise in but then we chatted a bit and talked about things and I thought this seems a lot better, this is the one I want to do.

DSM2: Not really, no mentors no.

JJ: So now touching on the barriers affecting a career in orthodontics. In your present position being an undergraduate do you perceive any barriers to having a career in orthodontics?

DSM2: I guess people not having had training. In a lot of other dental schools, they don't have any training in orthodontics at all, so it might be something they haven't considered doing. I'm not sure what else to be honest. What do you think?

DSM1: For me, a lot of it is, looking at the base course of intake and the years above and below, it feels there is a big gender change and a lot of it is female base. There is a lot of women in the year and in the year above there is next to no blokes, about 5 or something. So, you think they are going to graduate and then they are going to specialise. At this intake, how many options are there to specialise, its like look its female dominated, they'll be specialising and then it leaves the blokes, especially in todays current society and views and stuff. Its probably the blokes that are going to get the worse hand of it because its more women going into these options than men.

JJ: What makes you feel like it would be like that?

DSM1: Mainly, a lot of it has come from the political climate at the minute. The other bits are if you look at the intake.

JJ: So, do you think that the girls in the group have an unfair advantage?

DSM1: Yes because there's more of them. There's more of them so it's not as balanced in terms of gender. So, if you think further down the line and its not balanced in terms of gender, it's not going to be balanced in terms of when you go to specialise and things like

that which may hinder barriers and stuff because of it. It's just my personal thought, I don't know if it is what happens or not. That's just what I think may be a barrier towards blokes and stuff.

JJ: So, do you think that in your year more girls were successful at getting in? Why do you think there are more girls?

DSM1: I mean the medical professions at the minute are becoming a lot more female orientated. It used to be traditionally all males would go for it, now it is becoming, times are changing, a lot more women are getting into it. I think a lot of it might be applications, so they are not being, young boys are not being pushed. They are being pushed to do engineering and science, but they are not being pushed into the medical side. Where women are being pushed into doing the medical side a lot more. That's a feeling from when I was back at school, I was seeing that a lot. So, it's one where, I was seeing that a lot, on top of, maybe they are not achieving the grades, maybe there are not getting all this stuff, which gives women coming in then men.

JJ: Ok, do you feel the same?

DSM2: Not entirely, no. I'm not sure why there are more women on the dental course.

JJ: So, you both have got the grades, you are both here, but you feel that might be a barrier getting into orthodontics?

DSM1: Yes, simply because. Well if it was a bit more balanced in terms of the gender ratio on the course, it would be a more fair playing field for everyone. Looking at it currently, it is not as fair a playing field as people would want it to be. It's not 50:50 or near enough, its. What would you say the year above is?

DSM2: There's maybe 10 boys.

DSM1: It's not even that. There's 70 or something in the year, so you think that and then you're split or hang on that going to be a bit hard for them to get placements and stuff because its just numbers. It's just the numbers side, not necessarily gender, maybe numbers.

JJ: Ok, so some other barriers that came up in the readings, I don't know how you feel about these, the cost of training?

DSM2: I think once you have done your portfolio, like working with kids and what have you, then I've heard it is quite expensive to do the training after.

DSM1: But you can work while you do it, is that right?

JJ: So, when you get a specialist training job you are employed by the hospital, so you have a salary, but you are linked with a university. To become an orthodontic specialist, you either need to do a masters or a doctorate, so you still have to pay the £9000 fees.

DSM2: So, you are still getting paid, but you pay some of that to the university. Ok, I didn't realise that.

DSM1: I mean I expected there to be high fees when you went to specialise in dentistry anyway. So, I don't see that as a barrier, as most people are aware that, that is the case with any specialist qualification.

DSM2: I didn't realise that you were employed at the same time.

JJ: Yeah.

DSM1: I thought you did it part time. Like you studied and then worked the rest of it. It makes a bit more sense. I don't think it would put people off if they are aware of it from the beginning. If you knew from the beginning, this is what to expect.

JJ: What about the length of the training?

DSM2: Is it three years?

JJ: Yes.

DSM2: I guess if you are working at the same time as training, it is not as big a deal then doing university again for three years.

DSM1: The only thing would be travel.

DSM2: It's not like maxfac surgery where you have to do a whole other degree. That's a full-time degree so that would be more of a barrier for that.

JJ: What do you mean about the travel?

DSM1: I mean the people that don't live locally, maybe that would be a bit more expensive. What if they had bought some where to live, would they consider renting here if they wanted to specialise rather than commute every day, so it may be beneficial to do so or for those that live in a commutable distance. That's a thing, where if you want to do it, you would be aware that this is the case and you might get around it. You can see how it is a barrier.

JJ: So, a bit more on travel because that moves into location. So, when you apply for VT, you know that you could end up anywhere in the country the same thing happens for specialty training. How do you feel about being placed?

DSM2: I'm not too bothered to be honest. I don't really mind where I live to be honest.

DSM1: As long as it's not London I think I'll be alright.

JJ: So, the distance from family wouldn't really matter?

DSM1: The distance doesn't really bother me, I think wherever I end up, if I like it there, I'll probably stay there, which then might influence if I want to do orthodontics or what is nearby to offer than service for the training, otherwise I mean. I think that's a big influencing factor for me anyway.

JJ: What about the competitive nature of recruitment?

DSM2: Well, it is supposed to be very competitive, so I guess you have to work hard whilst you are here. Ger a good base of working with children.

DSM1: Well, they said this was one of the most competitive courses on the country to get into and considering the number of applicants and the grades and the number of spaces, we got through this. I like the challenge.

JJ: So, you don't see it as barrier, you see.

DSM2: I see it as something to work towards.

DSM1: Yeah, it's something to work towards but a lot of people may be better off in situations if mummy and daddy own a practice and they are lucky enough to get all of this work. Whereas people like us who don't have that at all probably struggle to find the work a lot easier, so it has an influencing factor there. But I think it is more so if your parents are dentists, they can make connections. Where for us, they aren't, it makes it a bit harder to get the experience and that can become competitive.

DSM2: It makes you work harder, doesn't it?

JJ: So, I don't know how far you have thought past becoming an orthodontic specialist but there are career options. You can either at that point leave the training system and work in practice as a specialist, either NHS or private or you can apply again for an additional two years training where you will become a consultant in the hospital. With that some people decide to do part time NHS work in the hospital and maybe a day private in a specialist practice. Or there is the option to do what Professor B has done which is the academic route where you do your NHS consultant training and you might do a PhD to become a Professor. Let's suppose you became a specialist where would you like to see yourself working?

DSM2: I think I would like to go out into the world, rather than carry on training, I think I would have had enough by then.

DSM1: I would really like to teach. I've come from a family; my Dads Mum was a teacher and it was always this blood in the family, oh go on an be a teacher and all this stuff. So as a family we're all committed to not becoming teachers. So, it's one where I don't want to do the academic side, I wouldn't mind the hospital side, but I want to work in practice.

DSM2: Yeah, I'll have had enough of training by then.

DSM1: Sick of the student life. My liver can only take so much.

JJ: So, what is it about practice that you find more desirable?

DSM2: I think it might be more relaxed. I'm not sure, but that's the feeling I get.

JJ: So that's touching on work life balance. Obviously working in practice and here you might have a long commute some days and that might be quite challenging.

DSM1: The opportunity to run your own business. I think that's where we both want to end up, owning our own practice. So, working in general practice you get the experience of being able to do it all yourself or you can set it up yourself.

JJ: Focus group close

Appendix VII.3: Female junior orthodontic StR focus group transcriptions 02/07/2018

People present:

Jenifer Jopson (investigator) - JJ

Dr Patricia Neville (acting as notetaker)

Participants:

JRF1

JRF2

JRF3

JRF4

JRF5

JRF6

Introduction to focus group

JJ: Why did you choose orthodontics as a career?

JRF1: I chose orthodontics because I really enjoy the physics and the maths behind tooth movements. It was something that was my forte and I preferred that over general dentistry. I thought orthodontics was an interaction with children and that, physics and interaction with children were two things that I really enjoyed doing and orthodontics was a good fit for me.

JRF2: So, I always liked the thought behind how teeth move, and I thought it is somewhat of an easier career to take back home. There are no on-calls, its clean, there is no blood, no injections, not as much pain and it is good to have a relationship with the patient throughout the whole 2 or 3 years. You get to see a result afterwards which is nice.

JRF3: I think those points, but you are also treating, usually a population group that want treatment, they are motivated for treatment. What we have seen so far if you ask someone to brush their teeth better to be able to have treatment, you see that immediate change

and hopefully you are instilling good habits for life. So, treating children I think you are kind of reaching people before they reach their adulthood and get bad habits. I also didn't like working in practice, so for me it was an opportunity to work in a hospital environment but not do the maxfac and on-call so as a job that has loads of variety it definitely had that for me. I've also seen loads of women, not just women but consultants that are orthodontists in the hospital and I respect everyone that I have met.

JRF4: Quite a lot of the orthodontic consultants seem nice and quite balanced, friendly people who seem to have a quite nice work life balance. For me the decision came over loads of years actually, its almost been a process of elimination, there were areas of dentistry that I didn't like. It was quite a slow decision and I eventually made the decision of orthodontics and I'm really glad I did. It wasn't something I've always known I wanted to do.

JRF5: I guess for me it's what you guys mentioned as well, but for me, in my country it is particularly needed. Orthodontics offers job stability and no on-calls and the satisfaction that you get from treating patients.

JRF6: I like that it is like a puzzle, so you have to think in advance before you do any kind of mechanics. It is a smart job and only smart people excel at being good orthodontists.

JRF1: I think the monetary aspect of it, is also probably a factor. I didn't like general dentistry either, so I definitely wanted to do something which wasn't dentistry. But I don't know that I would have necessarily pursued the career if I didn't think I would have some financial benefit from doing extra study so, because it is 3 years out of your life where you have to concentrate on this and I think it's difficult to have some aspects of your life whilst you're doing this. Maybe I am not as balanced as other people. So, I would say money was a slight factor I wouldn't say it was my overwhelming factor. I just didn't like dentistry, but it was a slight factor.

JRF2: Yeah, it's well paid.

JJ: So, was there anything else in particular that helped you or motivated you to make the decision?

JRF1: So, I did work experience and I think getting an insight into what the job was like definitely motivated me to pursue this and like I said I really the maths aspect of it and that's a real push for me if I'm being honest. That is something I like, so that was my go-to.

JRF4: I think having someone who encourages you in your decision as well is really important.

JRF2: Like support.

JRF4: Like if someone says, what a good idea, I think that would be great for you.

JJ: Is that family support or work support?

JRF4: Probably both. Maybe workplace more important than family. If a consultant knew you had decided to try going for orthodontics and they were an orthodontic consultant and knew it was really good for you and encouraged you and helped you, I think that would spur you on.

JRF6: I had an idol so before I got into dentistry, I use to look up at him and then I got into dentistry in order to get into orthodontics, so my plan was there all along.

JJ: So, you're beginning to touch on mentors, have you all had a mentor?

JRF3: I wouldn't say anyone specific but a few people that like during the DCT years, if you're in units with orthodontists then like you say if you've got someone that's, oh yeah if you get on this audit or do this, and just help you. I think you have to show the willing first, but people that are willing to take time out to help you.

JRF1: I think definitely something that I've seen is orthodontists, like consultants are really willing to help.

JRF3: and it's something that I've not experienced in other specialities, like in maxfac I would say, I've got this idea, and someone would go, no I don't think so, okay fine.

JRF1: I do think it is a personality type thing that's maybe drawn towards it, but I'm not too sure. Yeah, I'd say multiple mentors as well.

JRF4: You do have to have the family around you, so if you're in a certain situation and someone says, yep, we'll support you, we'll help you out, that is important as well, whatever situation you're in you need to have support, because it is intense and difficult.

JRF3: Personal experience as well like because I went through ortho, twice, then you sort of know what it is about more a bit more, don't you? For me it may have, even, like now I feel like I can sympathise really well, especially the canine group of patients, so it gives you more insight I suppose.

JRF5: I guess for me it is more family support, because my mum is a general dentist and wanted to become an orthodontist, but she didn't get the chance to do so, so I feel that me becoming an orthodontist really, will just make her happy and you can get really good support from her as well because of that.

JRF1: I think peer support is really important as well, so not just your mentors or consultants. Within my last maxfac job there was a few of us that were going for it and a few of us became really close because you just help each other, you just even though its competitive you want to see everybody get into it and you can't practise questions with consultants all the time and your peers are just really helpful in that respect, you are all going through the same thing, so you can all relate to each other, know how each other feel and I feel it was good to give back and help those that haven't got in.

JRF6: Even now I feel like this is the situation with us, everyone tries to help each other, like when someone is struggling.

JJ: So, are there any other facilitators that helped your decision in pursuing a career in orthodontics? For example, self-employment?

JRF1,2,3,4,5: No

JRF6: I am already self-employed, but I know that being an orthodontist and self-employed is 10 times better. 10 times, reinforced. It is really good back at home.

JJ: So, you are already self-employed, and you plan on being self-employed afterwards?

JRF6: Yes.

JJ: But for everyone else it wasn't a facilitator?

JRF2: You can open a practice, by yourself if you are an orthodontist, its easy, but that is not the thing that pushed me into it.

JRF3: I suppose it is the thought that you could do, like most of the consultants here will do a private day, or half a day, whatever and to know that, that opportunity is there so that you can work in the hospital, you can do a bit of private work and yeah to have that opportunity, not as a driver but I was aware of it.

JRF1: Yeah, it wasn't a driver, it was awareness.

JJ: Ok, what about the work life balance?

JRF3: That was a driver.

JRF2: It is yeah. It is easier than other specialities.

JRF6: I don't think that it is, being self-employed, you see orthodontists that work 6 days a week.

JRF1: I think the 9-5 aspect, which I know it probably going to change, but the 9-5 aspect is really good and the fact that you can be flexible, it's useful. Like this whole thing is about women and I am a woman and I know I am going to have kids, well I hope, touch wood, and I think the flexibility of it would be really good. However, I do think you can get that in the dental profession anyway and that was my initial driver to study dentistry over medicine, so I had thought about it at that point. So, I don't know that it was a driver towards orthodontics per se, but it was a driver towards general dentistry.

JRF4: That is true, that is a good point.

JJ: Would you all agree that the feeling of work life balance was before undergraduate level?

JRF1-6: Yes.

JJ: So, when you weren't enjoying general practice was the work life balance still a factor in choosing orthodontics as opposed to say maxfacs?

JRF6: I actually think it is harder, like if I am planning to have kids later on, because my patients have to come back to see me every month and that means there will be delays for them. It is not like I am an endodontist and I have a case that will be finished in three visits max, but in orthodontics it is kind of hard to finish the patient quickly, so someone will take over or you will be delayed for your patient, so I think it is the opposite actually.

JRF1: For me in terms of the family planning, if I think about my life, it is adding on those three extra years of your life, so I know some people do it at the same time but for me, I probably want to do it after my degree and I don't know that I would get married during this or whatever, so in terms of family planning everything is later. So yeah things are little bit later, like my consultant had her first kid now because she wanted to do FTTA, so in terms of family planning for myself, things are later, I don't know if that is the same for everybody else.

JJ: How does everyone else feel?

JRF3: Yeah, I think, yeah delayed but I also don't think that, I don't think that it is so much that it is detrimental at all really. Yeah, I think certainly these three years. If you were going to do FTTA then for me yes that would be eating into am I going to have a baby now? Yeah so that may come up later as a barrier to doing FTTA instead, but these three years, no not really but other things like buying a house, like ok you might not be earning as much as you would be if you were in general practice, yeah buying a house, paying for a wedding, those things are affected yeah.

JRF4: I suppose it is different for me because I came into orthodontics a bit later because I had done other things, so I am not going to hang around and wait. This is what has happened to me and I feel like I am just going to have to cope with it, but you know it'll be fine, I'm sure. But I think in a way we sometimes think we can plan everything beautifully and sometimes things don't work out like that.

JJ: Was the salary in orthodontics a consideration?

JRF2: Yes.

JRF6: No. I think if you specialise in any other aspect of dentistry then I think you get paid well. Endodontists back home earn really well. Prosthodontics.

JRF2: No, it's prosthodontics and ortho.

JRF6: That's if you're speaking about public sector. Private sector you get lots of money.

JRF3: Do you mean the salary for these 3 years or after?

JJ: Either.

JRF4: I suppose it is all about the long term, it's about looking ahead, you've got to.

JRF6: Like if you are good at it, then in any specialty you'll get good money, that is what I believe.

JRF2: So, in the NHS, like the government you're paid the same as a consultant. In private practice you are paid more.

JRF1: I definitely think with these three years its about the long term and you're doing this to hopefully benefit yourself in the future.

JRF3: We are already getting paid far more than the last cohort.

JRF1: Yeah exactly we are getting paid more.

JRF3: Which is very helpful.

JRF1: I don't think money was not a motivation for me, but it wasn't my primary motivation. Like I said before it is good to know you are putting extra work in to get some remuneration at the end of it, like, I don't know if people would necessarily do it if, like I don't know if I would do this for 3 years to know I would be earning less than in general dentistry and I don't know if other people would do the same but I didn't like dentistry so maybe I would have.

JRF3: I remember sitting in the practice as a VT thinking this is not worth the money, like I would rather be pulling pints right now to be honest. So, yeah, I think no, finding something

that you like doing 5 days a week is more important than how much you get paid for it but at the same time if you could change your career and do something completely different than why do the extra training?

JJ: Do you feel you are aware of all your future career options?

JRF1: No one knows their unknowns. I know that there are a few options, I don't know if that is all of the future options. I've no idea, I know that you can be in private practice, you can work in a normal NHS practice, you can do consultancy then you could probably be on loads of boards of stuff, probably do like, I don't know work for the CQC, GDC, you could do all that sort of stuff so I probably don't know the full extent of all my career options.

JRF3: Also if the NHS system changes then the options change. I think another reason to do dentistry not medicine, is that you're not bound over by the NHS. If you think this isn't going to work for me anymore than you can go and do your job outside of the NHS. Whereas I think if you do medicine then essentially you are just tied down to the NHS until you reach consultant or until you reach a point where you can open your own private practice.

JRF1: I think that is fair, definitely.

JJ: Where do you see yourself working in the future?

JRF1: I quite like the idea of teaching and I like the idea of doing something that is just not being in a single surgery all day but that's because I like doing different things. I need variety, I've realised this about myself, so I feel that is something I didn't like about general dentistry, you can feel isolated and you can feel that you are in one room all the time, 24/7, so I need variety, whatever that may entail, it will be with variety.

JRF6: I see myself in private, but I am thinking about having multicentres that are not inside the same country, probably internationally between two countries but mainly private.

JRF2: Government as I'm on a scholarship, then probably private practice part time and part time teaching at the university.

JRF3: Ideally, I think hospital consultant, private practice on the side.

JRF4: For me I would like to have variety again. Ideally hospital consultant but also doing teaching and research if possible. But then also working only 4 days a week.

JRF5: Well for me, because I am a sponsored student by a university back home, definitely after this I am bonded to them in a teaching hospital so definitely consultancy and then teaching, hopefully on the side doing private.

JJ: Have any of you considered senior specialty training?

JRF1: Yeah.

JRF3: Yes.

JJ: Why is that?

JRF3: It allows you to be a consultant in the hospital, really if you just do these three years its quite limited. Really if you do the 3 years, most people will go into practice. Where if you want to stay in the hospital then you have to do FTTA. So, to get the variety, for me I'm not too keen on being in a dental hospital and teaching I find the system too big. In the dental hospital there are too many loops to jump through to get anything sorted, like in a district general to have that and work with the maxfac team or a cleft team.

JRF4: For me, yes, I want to carry on the training if possible, I just feel like I've been in training for so long it would be nice to just get to the top if I can.

JJ: Is there any other reason than the variety?

JRF1: For me, it's also about cementing my knowledge, so I think we do this for 3 years, and I know what I'm like, I like to know that I know all of my stuff so having 2 extra years of training for the cementation of knowledge, for me is really important but then I don't know, I mean you say all of these things and then your opinion could completely change and I could get to the end of these three years and be completely burnt out. I do feel like it would be nice to have that cementation and maybe just like, like I said I don't know where I will end up being but having that different variety of teaching and try and understand methods from different areas, people do things in completely different ways, so I think it would be really interesting but that's because I like to know loads of different things.

JRF4: I'll tell you what else that is really important is the recruitment process, I won't move now so it has got to be within a driveable area otherwise I won't do it, so I think that is really important and how that process works.

JRF1: Yeah so, I am in a district hospital and I don't think I would necessarily want to be so far away from my family either, which is the West Midlands. I don't know, you don't know where your life is going to go.

JRF3: I think geography is a huge factor because once you get to a certain age and you've bought a house and maybe you've got children, you're not going to pick your life up and move again, that's just not what you're going to do.

JRF1: I do think that for FTTA that maybe there are so many unfilled posts because people get a bit more choosey, it is only natural.

JRF3: Definitely and when the other option is go and work in practice, it is not a bad option.

JRF1: Exactly, it is a decent option. I would also say back to the family think that I don't know if I would still have, if I wasn't doing this, changed my plan either. I think maybe it takes a certain personality to do this, because it does affect buying a house, so I think that is what affects me more rather than necessarily having kids because I still think that will be a point.

JJ: Have any of you considered academia as a career option?

JRF3: I considered it, then I decided against it.

JRF1: Yeah, I considered it then decided against it too.

JRF6: Not currently no.

JRF2: I might like to work part time in the university to overlook or shadow the students clinically, but only the clinical part, not the teaching part.

JRF5: I think yeah definitely, I've considered it. I'll definitely be one of the I guess teachers later on after I've graduated, just because I feel that I can contribute something, things that I've learnt here, skills that I've learnt here to the society back home and I can gain a lot from it as well, they can as well.

JRF4: I suppose for me, I feel I am almost approaching the orthodontic side from the academic route, that is almost the angle and the reason for me coming into it to be on the academic side.

JJ: So, we have one person here that strongly wants to pursue the academic route, what are your reasons for wanting to do it?

JRF4: Variety again, you have got such a varied week, which I really like. I really enjoy the research and that is probably lucky because I have come from a research background which really got me hooked and I want to continue that forward if I can.

JJ: So, what are the reasons for not wanting to do it?

JRF1: I would like to do teaching and stuff like that. The experience of going through ethical approval and jumping through all of those hoops I've found tough previously and I don't know that it is necessarily my cup of tea. I wouldn't mind writing papers and stuff; I don't know about doing massive clinical trials is where I see my head at. I would never say no to anything, but I am definitely not a yes.

JRF3: I think that you personally can spend and put so much effort and so much of your time, thought process, everything into doing something which at the end of the day, no one really cares about, it is not going to change anything and for me I would get so much more gratification from a patient thanking me for their treatment than a 5000 word paper which I'm sure has a lot of meaning but you know its like, its out there, for me it doesn't mean anything. I'm sure I would be proud of it, but it just doesn't hold the same gravitas I suppose.

JRF6: I prefer the clinical aspect, dealing with patients directly.

JJ: Do you know, (if you wanted to), how you would pursue a career in academia?

JRF1: No, I would ask JRF4 or one of the professors. Off the top of my head I don't know yet.

JRF2: What do you mean?

JJ: Like, how would you become a professor, like what is the career pathway?

JRF2: I have no idea.

JRF6: I don't know.

JRF3: I would have thought it was like what JRF4 has done and what Julie has done so you are not necessarily an NHS employee, you're a university employee. Is that right?

JJ: Do you know JRF5?

JRF5: Not for this country no.

JRF4: There is a specified sort of clinical academic pathway which they have sort of invented, I think about 13 years ago, something like that, to help people continue to do their academic work alongside clinical training. There is a pathway, it was set by Sir Mark Walport originally to help address the shortage and to make it easier for people to go between the two sides of this pathway and the idea is that even if you're in your academic training and you decide actually I don't like it you can go across to the equivalent clinical level and still be ok going on with your clinical training.

JRF1: I definitely don't think there is a lot of awareness around it, like I didn't know there was going to be an academic trainee with us, I didn't even know that was a thing so I think there is a lack of awareness or maybe I just haven't been interested enough to find out the information about it myself but it definitely hasn't been given to me on a plate.

JRF3: I think as an undergraduate as well having more exposure to it as well would be better, I think that is the way of introducing it. Certainly where I went to uni, I think 2/3rds of the medical students would do a masters and I think certainly the people that I lived with, you know one of them did a systematic review as an undergraduate so I'm sure its not like top end but you know at the same time, the more you know about things, the more you are interested in them, the more you are aware of them and would maybe carry that on. If you are in a supported position, then you will feel more comfortable asking the stupid questions because you're like I'm just an undergrad I have no idea and then you can always take it forwards.

JRF1: I think that people that don't have exposure, again it's like the unknown unknowns, like there's probably loads of people who have studied dentistry that actually enjoy a bit of academia, but they've never been given the opportunity to show an interest.

JRF3: It comes back to the mentor thing again as well because how long was I in a hospital for until someone told me you have to register your audit and they'll be someone that can help you get the notes. There's a whole system set up to help you be able to achieve this that I didn't even know about, so you need people that have done it before to let you know.

JRF1: I do think that in the medical pathways they are a bit more use to being in the hospital, because we are not use to being in the hospital environment either, as in yes, the dental hospital, but not the general hospital, we are not use to that environment where it has those facilities.

JJ: So, we have covered the things that have helped you career in orthodontics. What do you think about the barriers that have influenced your career in orthodontics?

JRF6: The length of time of treatment for patients. This is the only negative thing that I can think about. That's it.

JRF4: I think it is very intense training. You can't deny that there is a lot of work that impedes on evenings and weekends and that is a barrier I think but do all specialities experience a similar level?

JRF3: I would have thought so.

JRF1: Its interesting because you know when we went to that training day with the other StRs and we told them the level of work we had in terms of the research and the DDS, they don't have that.

JRF4: Yeah, they don't do a degree.

JRF1: Obviously, we are not exposed to what they do so I don't know if it is different per se.

JRF3: Yeah, I think Bristol is slightly different in how you are taught.

JRF1: We are a bit more intense aren't we. But then we are doing a doctorate I suppose.

JJ: Any points on the cost of training, is that a barrier?

JRF6: I mean it is expensive but if I wanted to study any other thing it would be the same as an international student.

JJ: So, it wasn't a barrier?

JRF6: It is a problem, but you have to weigh out the benefits and it does seem that it will pay off in the end hopefully, so that is how you should take it.

JRF5: Definitely a barrier is the cost because it is very expensive for international students. I would not have come here to the UK to study orthodontics if I was not sponsored, yeah definitely.

JRF6: Is it only orthodontics or any other specialty?

JRF5: It is just as expensive.

JRF3: It's not so much a barrier but I'm only aware of it when I see people who I graduated with, who earn more money than I do and go on more holidays.

JRF1: Yeah definitely, people that haven't done a medical degree do more stuff. But then we wouldn't have done it if we thought it was a massive barrier.

JRF3: I guess I am very fortunate in the fact that I get a lot of support from my parents and actually if I didn't have that support from my parents or my partner then it would be more of a barrier for me. So, in my personal situation, no its not but I can see how for other people it very much could be.

JRF1: I wouldn't say it is the easiest.

JRF4: I think if you compare it to other dental specialities, we have the cost of the degree, so it is very difficult with that.

JRF1: I remember going to like I don't know like some course, I cant remember what it was, it was about orthodontics and they were like you should never base where you are going on the cost of the course because we will make the money back in the future, hopefully, I

wouldn't say it is the easiest but I suppose you just live on NHS discounts and groupon and do stuff like that and not eat and go to Lidl. There are always ways around things.

JJ: So, we all know there is a shortage of NHS consultants with unfilled senior StR posts, what do you think are the reasons behind this?

JRF3: Geography. I think they should have more run through posts.

JRF1: I think more people would do it.

JRF3: I think more people would certainly sign up to do the run through posts, so where we are doing a 3-year course instead you sign up to do five years right from the beginning so there's no get to the end of 3 years, reapply to do another 2 years, so its just five years all the way through.

JJ: So, you would know where you will be for five years.

JRF3: Which is how restorative works.

JRF2. But what if you don't want to continue?

JRF3: You can drop out.

JRF1: I think that is where the financial aspect comes in as well, you've graduated with your peers and you're on, however much you're on and your peers are earning £50,000 more than you, so I think that's where potentially you could find a barrier, because it is geography and finance at that point. Like you said at that point in your life you may be thinking about different things and if you still haven't got a house by that time then that's.

JRF4: For me, the recruitment process is just, like national recruitment, its just so flawed, because you get people who have got a bit more life experience and have done other things and are very good but will not consider any jobs outside of a certain area. It's just the way it is.

JRF3: Do you think that is the national recruitment interview process or do you mean the ranking situation because I would say that I think if you interviewed by your own university than you would get preferential treatment.

JRF1: I agree with that.

JRF3: I don't know that that is ok. I have no issue with the interview process per se, I take issue with being placed anywhere in the country.

JRF4: A regional system.

JRF1: We did originally have a regional system but then they changed it to national recruitment.

JRF4: I can see that the old system was flawed.

JJ: Maybe it wasn't as fair or as transparent but were they filling posts?

JRF3: I think maybe for the initial stage, the first three years, then maybe national recruitment and just getting placed is maybe ok because there is so many jobs and they fill them but yeah for FTTA they've got to rethink it. Maybe it would be better to go back to regional for FTTA.

JRF1: I think when I spoke to my senior reg when she was there, I think the geography and the money thing is a big thing.

JJ: So I think we have kind of covered everything so we have spoken about the motivations that has helped you have a career in orthodontics, where you want to go in the future, your career options and the barriers but is there anything you would like to add that you haven't had the opportunity to say?

JRF3: I think that probably treading on egg shells, probably because of our group, the system at this hospital, Bristol, the system for trainees maybe, they need to think about people who do want to have children and making the course work around them. I don't think it is up to date with the modern era.

JJ: I think it is good to identify things that a group of people might be experiencing.

JRF3: I just know if I was in that situation, I could just see that it is not up to date, it hasn't moved forward, in terms of allow you to have maternity leave.

JRF1: It's really important.

JRF3: Like if you had caring responsibilities, its stuff like that, like nowadays you look at other countries and how they do things, its just so different, so much more forward thinking.

JRF1: Yeah, I agree with that, just because you can't devote your entire time to this doesn't mean you shouldn't do it.

JRF3: I think if you think about how many women are like at Kings, I think we had like 70 % girls, 30 % guys, so the industry as a whole is becoming a more female profession so they need to think about how they are going to do that and even if you look at the consultancy roles maybe they aren't filling them because they are asking people to do 5 days a week, well don't ask people to do 5 days a week, ask 2 people to do 2.5 days a week. You've got to move with the times.

JRF1: Yeah, I totally agree with that.

JRF4: Yeah, I mean I feel that I am fitting into a system and I am happy to do that, but I don't know how I would feel if it was my first baby, I think I would feel quite different.

JJ: Focus group close.

Appendix VII.4: Male junior orthodontic StR focus group transcriptions 02/07/2018

People present:

Jenifer Jopson (investigator) - JJ

Dr Patricia Neville (acting as notetaker)

Participants:

JRM1

JRM2

JRM3

Introduction to focus group

JJ: Why did you choose orthodontics as a career?

JRM1: I liked the idea of working with the age group 8-18 ish and the idea of combining dentistry with physics and engineering.

JRM2: Working with motivated patients that actually want to be there, rather than have to be there. It makes a big difference to the working day. Our patients are generally happy to be there, grateful at the end. I think they are happier than the average dental patient.

JRM3: I did a GPT placement and an ortho job and I quite enjoyed it and thought I quite fancied doing a lot more of this. Also, actually the patients aren't always ill, quite young and just fun patients really.

JJ: Anything else to add?

JRM2: In my VT practice there was a specialty orthodontist and she had been a dentist for 15 years prior to that and she always said she hated being a dentist and that orthodontics was the best thing she had ever done. That sort of pushed me to look into it a bit more.

JRM1: I was inspired by 2, a consultant and a specialist, Nick Wenger and Jon Machell in Exeter, they both just seemed like they really enjoyed their jobs, quite relaxed and they wholeheartedly and genuinely seemed to promote it as a specialty.

JRM3: In my maxfac job I saw how good the results were in ortho and how happy the patients were about it. You don't find many complaints coming in orthos way, patients like the results.

JRM2: I don't think you ever meet an orthodontist that regrets their decision to do it or is miserable, everyone seems quite happy.

JRM3: Endodontists don't seem very happy.

JJ: So, you are touching on the work life balance there and some of the motivations and motivating factors. Were there any other motivating factors that helped you make the decision?

JRM2: To some degree finance.

JRM3: The new contract is quite poor.

JRM2: I know that for the first part of training you are investing with time and lower wages knowing that in the future the wages are generally better than the average dentist, so that has some impact, I would have probably struggled to choose it if the pay was less than the average dentist.

JJ: So, you wouldn't have chosen it if you were going to be paid less than the average dentist?

JRM2: It would have been a consideration, like the fact it actually is such a financial investment over a period of I suppose since I left dental school and then VT it would probably be like 6 years since leaving VT and becoming a specialist. It's a long time on lower wages, working a lot harder than I would in practice so to some degree money is a motivating factor.

JRM3: Actually, with the large academic component as well, when you're actually doing all of this work, it is nice to know that there is light at the end of the tunnel if there wasn't one I think I would be less motivated.

JRM1: I've always wanted a career that I can not necessarily just retire at 50 and work really hard for say so many years and then just stop, I wanted one that I felt that I could carry on into old age if I wanted to and I felt that orthodontics would provide that much more than say endo just looking down a microscope all day or maxfacs really.

JRM3: There is also new technology coming out all of the time which is quite nice, so you can try out new things without having to feel like you are wronging anyone because the research is actually normally quite robust.

JJ: So now touching on the facilitators that have affected your career – did mentors affect this?

JRM3: So there was a consultant in Cardiff who was really really good, he whilst I was doing my ortho job he showed me like what the prospects are of different treatments, what they entail, and how much of a difference they make and he showed me a lot of his cases which really interested me, good academic, he got me involved in audits, a publication in the clinical effectiveness bulletin. Little things pushed me towards this angle rather than me just going for it myself, people tried to push me in this direction.

JRM2: Yeah so for me there was the orthodontist in practice who I only saw once a week but that was enough to sort of get me in that direction but no one specifically.

JRM1: I think in Peninsula we had a lot of different specialists. We were over burdened with restorative specialists, so we had a lot of input from different specialities but not really from ortho. We didn't have an orthodontist. It was quite insightful for me, I think it was in second year when I saw Nick Wenger and then when I saw some of the practice-based specialists I used those opportunities to learn as much as I could about ortho and practice. I thought they were really useful in helping my decision.

JRM3: I'd never done ortho in uni as well, I had never put a bracket on so for me when I came out of uni it was a fresh slate to try ortho, so it was a pleasant change to see that people are really appreciative of dentistry.

JJ: Did the option of self-employment help your decision?

JRM3: Its nice that you can do business unlike with maxfacs, like you will never own your own business unless you go back towards dentistry. I like the idea of doing the business element of it as well.

JRM2: I suppose for me its fairly similar, I think the other option I suppose would have probably been to be a GDP. So, I think being an orthodontist is reasonably similar apart from having the option to go into the hospital for orthodontic work as a consultant.

JRM1: I've always liked the idea of working in practice and never really planned on working in the hospital. So, I feel like orthodontics as a specialty is the most accustomed to that. A lot of other specialities are mainly hospital based.

JJ: Is there any reason for that?

JRM3: There's an ortho contract outside whereas there isn't a perio contract. There're very few oral surgery contracts floating around and there's even fewer training posts around, they are few and far between, so I think it's more geared to being in practice. Its actually geared into a split week as well which is pleasant so if you did ever want to do consultant training you could do a couple of days in the hospital and a few days outside or a couple of days, couple of days, and have a day off.

JRM1: I think all my exposure as a kid or running up to university was in practice and I always had positive experiences. Whenever I went to hospitals it was to see sick relatives so just the association I made.

JRM2: I suppose practice is just a little bit more flexible than hospital, you can find a job to suit your hours, choose your days, not necessarily work five days a week it depends.

JRM1: There's more locations available as well so if you are thinking about where you are going to live, the commute that sort of thing.

JJ: I think we have already touched on this bit the work life balance but is there anything else you would like to add?

JRM3: The orthodontists I've met have a really good work life balance.

JRM2: Yeah, I suppose I could see it potentially getting a bit worse with the new contract it contains provision for having to work non-standard hours like, work late, work early and work weekends and things like that.

JRM3: I think with the new therapist model you might be able to outsource some of your work, maybe subcontract it. I dunno I think there is a lot of scope for opportunities as well as the sadness that comes with the bad contract that is coming.

JRM1: I think a lot of emergencies in orthodontics are manageable as well they don't necessarily require you to have an on-call system and if you do its very easy to manage.

JRM2: My wife is in practice and I see a time where we can both do part time work and sharing a bit of child care which would be nice so that aspect of specialist practice is attractive.

JJ: That leads on to the next point did having a family impact on your decision to pursue a career in orthodontics?

JRM3: Massively.

JRM2: As in having a family?

JJ: Like the thought of having a family one day and that affecting your future career decision in orthodontics.

JRM3: It does work quite nicely together I think. If you compare this to maxfacs for example, I think maxfacs is the complete opposite in terms of being able to have a family. Having worked in a maxfacs job the hours can be substantially more, its less lucrative in terms of unless you're really putting in your hours, I think you don't spend a lot of time with your family as well because you're in and out, or asleep at times when people are socially awake,

so I think this is a nicer option in comparison to that, in terms of practice I think its similar hours.

JRM2: Also, being male I think you have a bit more flexibility, we're lucky in that respect. Like you could have a baby whilst you are here and come back to work quite quickly, it just generally makes life a bit easier.

JRM1: I was keen to have a job as well where it affected my home life as little as possible and I lost sleep as little sleep as possible umming and erring wondering whether that little thing I had done has gone wrong for the 6 weeks in between seeing that patient, implant placement all that sort of thing so similarly again I just don't think that there is that, hopefully, touch wood, there aren't many things that can go wrong.

JRM3: It would be very hard to kill someone with a brace.

JJ: Was the salary in orthodontics a facilitator?

JRM1: I think what makes someone a good healthcare practitioner is someone who's not stressed, on the ball can make decisions, good decision making skills and for that you need to be on it, you can't necessarily go into work knackered so for that I think its nice to be able to choose your hours and maybe restrict your hours to four days and maybe work longer hours on some days if you wanted and for that you then need to have a salary that is going to support your lifestyle. Working backwards from that slightly I think that's why the potential salary.

JRM2: Yeah for me it's not about being rich or earning really well, it's about being able to choose, like I can have a bit more flexibility and freedom if I earn well, you get more control over your work and probably choose to work less because I think after three years here we're reasonably tired from a work perspective.

JJ: So, the benefits of the salary was to improve your work life balance?

JRM2 and 3: Agree

JRM1: and to potentially try other things with your time rather than just being stuck doing the same thing your whole life, to experience more things whether that be job wise or hobby wise.

JRM3: Even ortho consultants I think is a generic NHS consultant salary which is not awful at all, but I think it's not bad.

JJ: So, what are your future career options?

JRM2: For me I'll have the decision to make between doing FTTA and choosing practice which I think at this point is very difficult to decide because I have only experienced hospital orthodontics. I don't know what my life would be like as a specialist practitioner. There's the thought that I might do FTTA just so that I've got options at the end and then choose to do a bit of both. Finances is the restricting part partly; in that we have a relatively low salary for FTTA compared to going into practice. You could probably earn two or three times without too much trouble. So, I think that's the difficult part and I know its partly down to a family consideration, I have a wife and she's supported me through all of this when do I stop putting her through the mill?

JRM3: I think there's also options to go abroad if you're an orthodontist. Australia has got doors wide open for us and I wouldn't mind a couple of years abroad getting some sunshine and then coming back.

JRM1: Yeah, I think I'm at the moment swaying more towards specialist practice and I think the decision for me then is to be an associate or buy in to a practice. I think buying into a practice means you're not necessarily giving half your salary to somebody else, but it also restricts where you are located like if you are going to be working in another practice as well. There's pluses and minuses. On that side of things, I'm definitely 50:50.

JJ: If you had to choose now where you could see yourself working were would that be?

JRM3: I'd go split week, even if I did do FTTA I'd still choose a split week afterwards. I wouldn't ever do full time as a consultant.

JRM2: Same as me. Actually, a big consideration for me will be location. If I apply for FTTA training, if I don't have to move house I'm much more likely to do it. I've moved house or location every year since I qualified really, and my wife has a job she likes and there will be family and things to consider by then and that will actually be the biggest consideration whether I have to move. I'll take a job closer to home more likely.

JJ: Anything else to add about location?

JRM1: I think for me one of the main reasons why I wouldn't go for FTTA is the restriction on location, both in terms of initial training and then later jobs. Location for me plays a big part in my decision.

JRM3: I want to go back to North London eventually, I think there are plenty of FTTA jobs and plenty of practice jobs, so I don't think I'll be tied down by that, but London is where I want to be.

JJ: Have you or will you consider academia as a career option?

JRM2: No

JRM3: No

JRM1: I would consider it.

JJ: Do you know the pathway to become an academic?

JRM2: Is it applying for academic clinical fellowships and grants and bits and pieces to support your research?

JRM3: I think you can go via consultant post as well. Once you are a consultant you can become a clinical lecturer and work your way through that. I wouldn't mind doing lecturing at some stage, but I wouldn't want it to be a full-time academic post.

JRM2: I assume you'd have to head off into doing a PhD.

JJ: So, are you clear on the pathway?

JRM3: I'm unclear.

JRM2: Not clear.

JRM1: I wouldn't be able to give you the exact pathway.

JJ: So even though you are unsure on how to become an academic what the reasons why you don't want to do it?

JRM2: The entire reason why I went into orthodontics is because its clinical. I do enjoy the academic aspects of the course but the academic part for me is the theory behind why I'm doing the clinical work and the bit of the job that I enjoy is the clinical work. I don't enjoy academic work for academic works sake. My least favourite part of anything is writing.

JRM3: From what I gauge, I think the academic work wherever you do an academic post is somewhat prescribed to you and I think if I have little say in it then I'd struggle with it. I'm happy with where I'm at.

JRM1: I think some of my interests in academia come from the fact that I like writing and I really like teaching, but I think you can do teaching without academia. So, while I have an interest its not 100 percent.

JRM3: Yeah, I fancy teaching more than I fancy doing research.

JJ: So, we have spoken lots about the facilitators in a career in orthodontics, what do you think are the barriers?

JRM2: Not anymore but I do think it was the risk of not getting a place is the real barrier. You are investing a lot, you are moving around the country, taking a lower salary, you're doing a DCT job you don't necessarily like, you're doing maxfac which is outside of most dentist's comfort zone. So, I think that's the risk and it's playing a game, are you going to get in? How many times do you do it? Like I got in the second time, the first time around when I didn't get a job, I thought how many more times can I try? So that for me was the biggest barrier. I think once you are on the course employment prospects are good. Everyone finishes, you know even if you fail once which most people don't but if you do you can

retake, and everyone passes by the time because we're well prepared. I think once you're here there aren't any barriers after this point.

JRM3: The exit exams are the only barrier left really. I feel I agree with JRM2 I didn't get in the first time, but I was doing jobs that I did enjoy, and it was picking between a couple of different specialities mainly between this and maxfac and I'm glad I picked this, no on-calls.

JRM1: Yeah now that I'm here the barrier seems small, I think the only barrier is whether I go into consultant training or not. The two main barriers are location, which we've already said and further exams, maybe by that point I will not be interested in doing further exams.

JRM3: Whether you want to do that different case load as well.

JRM2: I suppose that's more choices than barriers.

JRM3: Yeah, I suppose.

JRM2: You will have the choice, yeah, I guess you may feel barriers towards which option to choose but generally career wise its nice to have a choice.

JJ: So, at the moment there are unfilled consultant posts and a lack of junior of registrars going on to senior registrar training what do you think are the barriers?

JRM3: Location is probably the one. They are normally in odd places where nobody wants to go and by that point most people, if you'd done the bare minimum that you've needed to do by the time you've got there you'd be 29. At that point at the youngest you could possibly be before you can get to one, most people would tend, what I mean is, in our cohort I'd say 60 % of us are with partners that we're probably going to end up settling with or that we already are and I think at that point its mean to make your partner move half way across the country for something which maybe you don't really have to do anymore.

JRM2: I think the salary is probably quite a big one. To be honest the salaries are vastly different between FTTA salary and any job in practice.

JRM3: You can't get a mortgage on this, well not for a place in London.

JRM2: And then after that its all probably fatigue, its all quite intense after MOrth and the DDS. So, I think by then a lot of people have probably had enough.

JRM1: I think it does add significant difficulties in terms of getting a mortgage as well, settling down an having a family, which might not make so much of a difference if you hit every single job, every DCT job that you wanted, or were an undergrad, coming in as a postgrad, I'll be mid-30s, it just slows everything down in terms of progressing with life.

JRM2: Lots of us will be at the age where we would like children and then you're going to inevitably reduce down to nearly one salary even if its just for a bit, its still like a year of one salary and the FTTA salary whilst its still pretty good when compared to the national salary I suppose we've become conditioned within the dental world to think about different pay scales rather than average pay scales.

JRM3: Its incomparable to practice salary.

JJ: Do you have any thoughts on the length of training to become a consultant?

JRM3: I think 2 years is quite reasonable to be honest, so I think that's fair enough.

JRM1: Yeah, I don't see that as a barrier at all.

JRM2: Perhaps for some people maybe even me thinking about it, it sort of is, consultant training is very NHS clinical governance, there's loads of clinical governance where actually you might just want to get on and do the job you've trained to do and probably if you are going to become a consultant actually your job is 7 PAs of practical but that's 3 PAs a week of doing other things like audit and teaching, management meetings and all that sort of stuff.

JRM3: I'm curious though that you'd end up doing all of this stuff, doing FTTA and then you don't have a paid job for you where you really want it, then again you've got the same issue of location again and you've just wasted two years further which in terms of raw monetary ways would be a fair chunk of loss of income and all the time and effort and all those other resources that you can't price.

JRM2: I suppose now in two years you can be certain about where you will be, stick there, that's it done, which is quite nice.

JRM1: I think sometimes as a motivator you need a goal to aim for and if the goal just disappears after a year, you end up moving again, doing something different all over again. Coming in as a postgrad by the time I even get into specialist practice I would have been from first degree to that it would have been 14 years and often changing house and job, people in your local area, staff and colleagues over the years, its draining.

JRM3: Moving goal posts are a killer.

JRM2: I suppose I'm lucky as I'm exactly where I wanted to be, if I wasn't I'd want to go somewhere and that be it. I've had enough of moving, I don't want to move again, a massive factor is actually not wanting to move again.

JJ: We spoke about mentors being a positive role, have they ever acted as a barrier in your future career?

JRM3: No, not for me.

JRM2: No, all the consultants here are all very positive, they all push FTTA and push consultant training and you can tell they are genuine because they like their jobs, they talk about the positives of their jobs, not just because they want bums on seats. They are all positive, but they can see the negative sides as well.

JRM1: I think there's been enough GDPs that I've come across as well that have said to me, that when I've said I'm interested in ortho, that if they had their time again they'd do ortho for me to think, everyone that's done ortho likes ortho, people that haven't done ortho wish they'd done ortho, maybe its just clear as day that it's something that's worth following.

JRM3: Everyone does seem to push me into doing a split week though, all of my consultants are very much for the golden numbers, 3 and 2, 3 practice, 2 hospital sessions. They say that's the golden way to do it, to have a happy life and a happy life.

JRM2: I think in future orthodontics it might be a good way to hedge your bets and do it that way. The uncertainty around NHS orthodontics is something that may influence my decision to do both, so that I can cover my bases.

JJ: To cover your bases in terms of job security?

JRM2: Yep, security.

JJ: So just to recap you've covered the facilitators, your career options and then barriers, is there anything else you'd like to add?

JRM2: Yes, it's also having a supportive partner at home, I have a wife, she's moved, and she's had to quit her job in general practice every time I get a new job and that's a massive thing. I wouldn't have left her to pursue my career but if she hadn't moved I would have had to rethink my options and also, she earns more than me and that is quite useful because the financial burden of this is quite high so having someone at home who can support financially as well as move is very beneficial for me.

JRM1: I would second that definitely I would say that is my biggest barrier, if my wife hadn't been interested in moving or had said she would move or then made it feel difficult then I may have not followed the route or followed it and then felt guilty and unmotivated.

JRM3: I took a nice loan before this so financially I'm not too fearful, but I will do later, I'm luckily that my fiancé is happy to move even though she's in her dream job.

JJ: Focus group close

Appendix VII.5: Female senior orthodontic StR focus group transcriptions 09/07/2018

People present:

Jenifer Jopson (investigator) - JJ

Dr Patricia Neville (acting as notetaker)

Participants:

SRF1

SRF2

SRF3

Introduction to focus group

JJ: Why did you choose to do senior StR training?

SRF1: I wanted to do it because I wanted more experience clinically and I felt that it would keep my options open going forward, you can work in practice you can work in a hospital, by stopping at the end of the 3 years it would have restricted my options.

SRF2: Mine was a bit more of a complex decision because I wanted to carry on in all three strands of orthodontics. I wanted to do some more research, some more training and also some teaching. So, doing the pathway I chose which was the academic clinical lecturer pathway allowed me to keep all of those options open, so yeah it was to give myself more choices really.

SRF3: I decided to do it because I knew there was more to learn and if I'd left and not continued with my training I would have felt that I would have left half way, that's what it would have felt like to me. If there was more to learn I wanted to learn it all. As SRF1 mentioned it keeps your options open for the future as well, especially with the climate and that things keep chopping and changing all the time, at least there's a bit more security for the future.

JJ: Thank you. What were the motivating factors that helped you make that decision?

SRF1: Well I applied for the interview, went to the interview, thought if I get it I get, if I don't get it, I don't get it, but I got it, so I'm here so that was a factor that pushed me into because I got the job.

SRF2: I think I was encouraged to apply and by several different people within either the university or within the hospital, so I felt that I was sort of in the right place to go for it. It was nice to know that I was successful at the interview. Although I had a position I still had to attend the national programme, so it was nice to know that I got in to do that anyway. Yeah, it was good to know.

SRF3: For the reasons that I stated earlier, I wanted to learn more but with quite a few registrars that I was training with, one of the factors that played a part was if they were ready to start a family and because I was by myself, I wasn't really in a rush to start a family or anything like that, I felt that I had been training for all this time I can easily carry on because it isn't a change of lifestyle, carry on learning, so I continued. I think it did help not having anything else going on.

JJ: So, in the literature review some of the things that came up for reasons to do additional training were mentors, self-employment/salary and the work life balance. Did any of these influence your decision?

SRF1: I think the self-employment/employed did play a factor because a lot of people that aren't doing this have gone into practice because you earn a lot more in practice. I felt that it was harder to go into practice and I didn't want to think 5 years down the line, actually I want to be a consultant and take a pay cut then, whereas at the moment I haven't taken a pay cut, it was easier then to go into this job. With regards to a family and stuff like SRF3 there was no one there to think I'm ready have kids or maybe I'm not ready to do this. I didn't think it was going to happen in the next 2 years, so I thought I might as well do this in the 2 years, yeah.

SRF2: I think being in a slightly different position I had already taken the pay cut. So, I was in practice and I knew I enjoyed practice and I could go back there. So this was another opportunity for me to do something slightly different and I had already made all of those decisions being a slightly different point in life I suppose the family wasn't a motivating

factor but the mentors definitely is. I think having the right mentors around you, can certainly influence your decision at that stage and I think within our hospital environment we have a lot of people that are predominantly hospital based so I think they said this is the job that they do, with maybe one day in practice and you can still mix it. So, again keeping options is important I think.

SRF3: As SRF1 has already mentioned you do get paid more in practice, but because I wasn't going to get paid more anyway, it was easy to continue. I do find that with my peers there were some that if they were in relationships that they felt like they needed more pay to continue what they were doing, like getting a house, having a family, stuff like that, so there was a clear case that the single people continued training and the ones that probably needed more money felt like they needed to go into practice there and then. So, it seems like it plays a factor but I don't know if that would have made a difference to me if I had been with someone at the time, I don't know, I probably would have still done this I reckon.

JJ: So, what are your future career plans.

SRF1: I'm not really sure at the moment, I'll see where life takes me. I'm sort of at that mental, yeah, whatever doors are open I'll take them, yeah.

SRF2: I think the really interesting knock on effect of the intensity of our training means that perhaps I'm less sure of the future then I might have been four years ago, as in I kind of exactly what I was doing, four years I thought I knew what I was doing but actually you see these other alternatives and you think am I actually doing that now? The good thing is that we have opened doors and like SRF1 said it is nice to have those options, but I think sometimes it makes your decision making slightly less clear cut. So, do I absolutely know what I am going to do in October, absolutely not. I know what I am applying for, I'm applying to be a consultant but until you pass the exam and until you get through that stage you don't actually know what you are going to be doing. But, what you do know, and I think this is important, we have a qualification that is valued in practice, whatever happens through these training years, we always have that anyway. I think that is a good place to be, but this gives you more choices this way.

SRF1: Also, can I just say, the exams and applying for jobs at the end of post CCST, they are not the easiest of things and so sometimes it actually puts you off, so I'm doing this but thinking do I actually want to apply for a consultant job? The interview just seems so difficult and it seems so much easier to go into practice. They haven't made, what's the word, the two pathways similar, one is a lot easier, or appears a lot easier than the other and the other one seems like you're up against a brick wall and you're trying to get through it.

JJ: Did you feel like this before you did the training?

SRF1: No, I've just realised it in the last 9 months.

JJ: Do you think it is a factor to put people off, or a reason why people aren't doing it?

SRF1: I think if I had known what I know now I wouldn't have done it.

SRF2: I think that is a really good point. It depends on who you talk to.

SRF1: I am thinking, is this worth it? I mean I here. This weekend I was on a course all weekend, Saturday and Sunday, there's people out there having fun.

SRF2: I think that is true, the work life balance, you see colleagues having a much more balanced life by not doing this training. That's fair isn't it?

SRF1: Yes.

SRF2: Do you find that as well?

SRF3: I think there are people that are in practice that do have a better work life balance. We graduated years and years ago and we are still doing work, it's a bit like being at university, isn't it, they can continue their lives, go on holidays. As SRF1 was saying it is difficult and even though we have done MOrth, even I have realised recently that it is really does take its toll on you, it really does. So, my plan is, hopefully pass the exam and even that, you don't know if you are going to pass or not, like you can try your hardest, but you have no idea what is going to happen on the day and even then, it's not having security in the future that is scary. So, I don't know where I am going to be this time next year, because

I don't know if I am going to pass the exam yet, so it all depends on that. But, ideally, I'd like to work as a consultant full time somewhere but maybe have a hand in practice at the weekend or something, so you are not out of touch with the practice side of things, that would be a good idea. Maybe one of the things that prevents people from applying to post CCST because it is 2 years more training and you are continuing what you're doing, the stakes are just so much higher, we're older, we've been doing this for a long time, its fatigue, fatigue starts to set in, it's really difficult, you need to be able to keep track of your mind as well and stay on track, that's really hard and I think it gets a bit, I'm not really sure if anyone else agrees but I find that it gets really lonely when you're doing this. I've got my exam coming up and I don't feel that I can go out and see friends because I'm definitely not going to do any work, so you just stay in and you're in isolation really, because you need to be in isolation to study and it is for such a long time as well, its been years and years now so maybe it does have an effect on certain people. I can see that is a deterrent.

SRF2: I think as well the consultants themselves sometimes don't make you feel that the job is that great, so you think to yourself I am putting all this effort in and I am going to try and be a consultant and then if you have a consultant then say, this is all awful and it was so much better 20 years ago and it's so difficult, those are the people that you think, why am I doing this again? But if you have a consultant turn around and say, no it really is worth going for this job its fine.

SRF3: It is really funny when you talk to people that have nothing to do with dentistry, so speaking to my mum, she said, so what happens when, so are you going to get paid more when you do this exam? No Mum I'm going to get paid less than if I stopped training a few years ago. So she wonders why I'm doing it because people normally assume that if you get paid more it's because you are in a better job and you're more qualified, they don't understand that you can be more qualified yet get paid less, so I can understand why other people think that who aren't in this world.

JJ: So, you've just touched on something that I haven't thought about, do you think people do their senior reg training and then drop out and not become consultants?

SRF2: Yep, they do.

JJ: I didn't realise that.

SRF2: They do. I know 2 that have done that in the last 2 years. So, they have done all this, started a consultant job and then decided its not for them. I only know 2, but it does happen and where does that put you? Then you have to decide whether education is worth it for its own right. So, for the two years and this educational process has been worthwhile anyway, I don't think I would not have done it. What about you, would you not have done it if you weren't going to become a consultant?

SRF3: I would have still done it, I am a lot more confident now because I am seeing more complex cases so I feel things will be easier, I definitely would have done it. Despite everything I've said, everything about solitary confident, if someone said there's another 2 more years, there's another training pathway for 2 more years, I think it's the type of personality that we have, I probably would have done that as well.

SRF2: I would have done that too SRF3, you're right, we're a bit nutters aren't we. Bring it on, let's do it.

JJ: The next point is on academia. Would you consider academia as a career option?

SRF1: No.

JJ: Why is that?

SRF1: Because I don't enjoy it, research is something I've done because it is part of the course and I'm more of a clinical person, a hands on person and I find research quite difficult so I wouldn't do it.

JJ: SRF2 so why did you choose to do it?

SRF2: I really enjoyed the study part and I quite liked fitting it all together so as it happens my research is now outside my clinical field in a way, which I didn't expect it to be, I thought it would be quite integral, instead it's gone down a different route but I still quite like finding reasons why and that's why research excites me. However, balancing up everything up what you guys have just said, and doing that on top, I think it has been quite challenging. So, I'm not sure I will want to continue that feeling of challenge forever, because I think it will

always be a balance and I'm not quite sure, back to the work life balance, I'm not sure how you then have a real life as well, not sure.

JJ: SRF3 have you considered a career in academia?

SRF3: Once, briefly, very briefly. No, I don't think I'll do it, I think I'd go nuts. I think it really depends on where you are trained, where I did the first 3 years of ortho, we didn't have much help when it came to research, we didn't have a professor at the time in orthodontics, so we were left alone. I think you're experience in research might give you a shaded view of oh this is great or its actually not that great and my view was not great at the time because it was really difficult, we didn't have anyone guiding us. I had to go to a different hospital to speak to a plastics consultant and ask him to help me with my research and that's how I managed to get through it. But, when I was doing the research, I did find it really enjoyable, but I think all of the negatives around it, I think there's loads of problems I feel. I think research is full of loads of problems, there's loads of barriers you have to get passed, just to get your research going. I don't know if that happens all the time, that is just what I have experienced, so no, no just based on my experience, unfortunately.

JJ: Do you perceive any barriers in a career in orthodontics?

SRF3: I think if you want to do it, it shouldn't put you back should it. I think it shows your commitment to it, so there are some people that would, so I've had one person corner me a while ago asking me if there were any orthodontic courses that they could go on to do braces and then I told them about this pathway and they said no, I don't want to leave my job, I still want to get paid as a dentist, I just want to go on something at the weekend and that really annoyed me. I think that the way it is competitive is needed and the length of training again is needed. I think you do need that length of time to learn things properly and also, I think it takes away the people that are only interested in doing it for money or any other reason they are. I think for the people that really want to do it will come through, you hope.

SRF1: I think that the recruitment process is difficult, but I think it is a fair way, national recruitment. I think that it is better than it was 15 years ago when you had to go to different units to apply.

JJ: So, you think that it is better now?

SRF1: Yes, I think national recruitment is more transparent and a more level playing field compared to back in the day when you went to Birmingham, you were an SHO there, you went for an interview there, you were more likely to get it then someone who's from Manchester because you don't know them.

JJ: Do you think it is working for the senior reg training?

SRF1: Yeah, I would say it is, I have no problems with national recruitment. I don't think I should say this, but it is probably less competitive to get a senior reg post then it is to get a ST1 job because not that many people apply.

JJ: So why do you think that people are not applying?

SRF1: Because of pay, the fact you have to do more exams at the end of it, some people want to start a family, xyz, you know you kind of have to, sometime move because of where you are studying, you might have to relocate for post-CCST. Most people don't want to relocate either.

SRF2: I think the national recruitment process is a bit of a red herring here about the number of people that are applying for training. I think that it has been talked about, like is it the recruitment process that is putting people off? I don't think so, no. I think we are used to having fair processes now and I think it's normal isn't it that you go for these things and you get points and that's how it is.

SRF1: I forgot actually I think it puts people off because you've done MOrth and then 2 weeks after MOrth you have to apply, finishing applying and you are so emotionally and mentally drained, sit and do an application form and then 4 weeks after that you have the interview which is why I said before I just turned up to the interview because I didn't prepare, but I thought if I get the job I get it, if I don't I'm so mentally drained that I don't care if I get it. So, I think that's what people say about national recruitment post CCST and the fact you have to do a portfolio, all of stuff that you have to do for ST1 and you're tired, so probably I don't know whether they should move the application later on and you start post CCST in January instead, rather than October and then the interviews could be a bit

later on and people have a month, 2 months to just take a breather and then apply so it would mean, but it wouldn't work for the ST1 recruitment because you'd have someone in that job until January compared to October.

SRF2: But I think that would be really valuable anyway. I think that the bit that's missing actually. Unfortunately a colleague of ours wasn't able to complete everything that he needed to in the time, for family reasons, and he had 6 months afterwards where he just had one thing to complete and he did that, so he got that done and at the same time he was continuing with his patients without having the exam to threaten over, he'd already done all that, so he did that. What I think we are actually missing here is just a bit of time to consolidate before you then go on to the next hurdle. I think your approach of saying let's do January, but you finish your patients off with just looking after then and having 6 months just to be normal before you start again actually might be helpful, just a thought. It is something that I have heard and make the most sense and allow you to have a bit of time. I don't think it is the process, I think it is the time.

SRF1: Yeah not the process.

SRF3: I think just to add, I think some people they don't apply because they just don't want to work in the hospital and that's what they say, that they don't see themselves working in a hospital, so they don't see the point in doing consultant training, unless you see the value in learning more or improving skills but doing 2 years of this just to improve skills, you probably don't want to do that. Yeah, some people just don't want to work in hospital and that's basically it.

SRF2: Also, there is a time when you want to be a grown up and you're still not a grown up when you are doing ST4, ST5 or in my case ST4,5,6,7 because quite rightly you have got seniors around you that are teaching you still and that is absolutely right, but you still have to put yourself in that position where you are happy to be guided all the time and there are times, where in practice you are already there and you get help when you need to, but most of the time you are an independent practitioner and we could be but it is that balance sometimes and at what point, I'm very happy asking for help, that's not it, it is just that feeling of at what time am I going to step up?

I suppose it is asking what could make it better, what can we do differently? I don't have all the answers, but I think the right group to be asking are the ones that are doing it.

SRF1: How do you make it better, the exams, the ISFE exams, the timing of recruitment, the stage when it happens, the pay, probably the ability to be part-time. I think the major things are the timing of recruitment and the pay. I think if people were, the exams are hard, but I think if the pay and the time of recruitment was right, people would do it and when they are in it, even though they say they won't go to exam, they probably will sit it because they've already done the 2 years.

SRF3: I think the exams are tough, it is difficult to say how fair they are as well, because it could be on anything, you've done 2 years and then show your cases. I know in the past they used to do a recommendation that, they've done the 2 years, I think they are ok to be a consultant now. I don't know whether they would bring that back in, where your supervisors signs you off after a certain amount of months and they're happy with everything, like the same way we do our ARCP, rather than having another exam at the end, maybe that might help. Obviously, the pay, no one is going to complain if we get paid more.

SRF2: I think the thing that is helpful as well is that there is a training programme where we have had some training days provided and I think if you knew that from the start, that is a selling point of this course really, that you do have some days, because actually when you're in practice, firstly you are paying for all of that yourself and secondly you don't have the time to do it and we are given time and I think we should be selling that in a way, if you wanted to bring more people in you need to be aware of the benefits of this post.

JJ: Focus group close.

Appendix VII.6: Male senior orthodontic StR focus group transcriptions 29/11/2018

People present:

Jenifer Jopson (investigator) – JJ

Participants:

SRM1

SRM2

SRM3 attended 17 minutes into focus group session

Introduction to focus group

JJ: Why did you choose to do senior registrar training?

SRM1: For me I had always planned to be a Consultant at the end of the day. I thought that personally, leaving specialty training, leaving, and then coming back to senior training would be a bit harder than doing it all as one lump.

SRM2: For me, like SRM1, always wanted to do Consultant training. I took specialty training then had to take a paused break because the military stopped offering it and I had to give up a career and a pension to do it.

JJ: What motivated you to make that decision?

SRM1: That's a difficult question I suppose. I suppose part of it is, when I applied to dental school, I planned to become a specialist anyway. I enjoyed orthodontics as an undergraduate so that was my preferred specialty. I thought. Is this what motivated you to be an FTTA?

JJ: Yes, to carry on training.

SRM1: Partly because, that was the plan and partly because I felt if I stopped at specialist level, I met get a bit bored in the long term over a practicing life. I might want to have a bit more variety in my practice.

SRM2: For me, orthodontics wasn't an option when I left dental school. It wasn't offered. It came up after I had been a dentist for a long while and I had specialised in other things. To become a Consultant however, in everything that I have done I have always tried to be the best that I could be and try to get to that level where you are at the top. I think that's what has driven me this time to walk away and do it because if I hadn't, I would have felt like I was missing out.

JJ: Did mentors help you in the decision?

SRM1: Yeah, I think, I was an undergraduate at Bristol and a lot of the Consultants there are orthodontics, the people that are organising the courses, so I took a lot of inspiration from them. When I started my specialty training even though I had already planned to do senior training and go that far, my trainers did inspire me to replicate them really. What I really wanted out of being a Consultant wasn't really to be an NHS Consultant because that isn't the same job that it used to be or as enticing but the desire to have a trainee and train someone to be a specialist and have the same sort of effect that my trainers had on me.

JJ: That's really interesting.

SRM2: Similar, with my trainer was Pamela Stephenson in Merthyr Tydfil and it was the fact that she took pride in her trainees. It almost affects the way that they teach you and you almost want to pass that on. So, yeah, so that is part of it, the desire. I agree with SRM1 that the NHS Consultant job probably isn't as appealing these days. But, the thought of having trainees and being at the top of your game is probably what did it.

JJ: So pretty much everyone has been asked the same questions, did the self-employment, salaried flexibility that you can have a factor?

SRM1: In terms of making a choice between ending training at specialist level and continuing?

JJ: Yes.

SRM1: Not really, because I think at the end of the day even if you complete your training to Consultant level, you don't have to be a full time Consultant. You can still have specialist practice at the same time.

SRM2: So, are you talking about, there's two things there, the final salary when you finish being a Consultant or whilst you are training?

JJ: Not really the salary. So, some of the things that came up in the literature review was that some people drop out of training because of self-employment and don't want to have a salaried job. Some people have said that is a factor for them to leave training and don't want to be salaried. A salaried job may also offer security of being in a salaried position.

SRM2: For me, it wasn't being salaried or self-employed. It was the income. I'm at a very different stage in terms of trainees. I've got a nine year old and a ten year old, we've got our final house, serious bills to pay, kids going to private school and the thought of dropping down to a trainee-consultant salary scared the life out of me and that was probably the biggest barrier for me. It was about getting all of the ducks in a row so that I could do it safely. When you've got other people depending on you, you can't really say I'm going to be a Consultant again for a few more years.

SRM1: Yeah, I wouldn't say that employment status was something that drives a reason. I can understand why someone might want a salaried position and have an employer and the benefits that go along with that. I don't think that was a consideration from my point of view but what SRM2 has said I would echo. The income was why I made my choice not to go and come back, for the exact same reasons that SRM2 has said.

JJ: Did the work-life balance play any factor?

SRM1: Depends what you mean by work-life balance.

JJ: So, I guess.

SRM1: The geography of the situation plays a factor I think, because it is national recruitment, you get a lot less of say as to where you go. Unless you want to go somewhere

that is potentially less desirable to go to, to outside candidates. That plays a significant factor because it involves relocating people and you don't necessarily get a choice in where you get to relocate to. That played a factor, rather than. What was the question?

JJ: Did work-life balance play.

SRM1: I don't think there is a huge difference in the work-life balance. As a trainee in the hospital you get admin sessions and SPA sessions whereas you wouldn't in practice.

SRM2: I think like SRM1 the whole work-life balance to me is very important because I have spent the last 16 years away from home. If I hadn't got a job at Derriford I wouldn't be an FTTA now and in the interview, they said me, obviously you don't want to be a Consultant bad enough.

SRM1: Well, that's just nonsense isn't it.

SRM2: Yeah, you can't just leave your family all of the time and drop them so. Yeah, so it's, I don't know, its very conflicting. For me the work-life balance was very important, so Jules kindly created the job and if it hadn't had been for that or hadn't been part-time, I couldn't have done it.

SRM1: Ahh.

JJ: Where do you see yourself both working in the future?

SRM1: Personally, I see myself working part time as an NHS Consultant and working part time in private practice. I'm not particularly interested in a 10 PA job for lots of reasons really. I don't think being a Consultant in the NHS is the same job that it was 20 years ago or when our predecessors entered into and I think that they would say the exact same thing. Looking at my Consultants that I work with, no one is as happy as they use to be. I probably see myself working part time and more than anything trying to split the risk.

JJ: What risk?

SRM1: In all honesty orthodontics is beauticianing of teeth, mostly. There is a small proportion of people that genuinely need orthodontic treatment, but that proportion is very

very small for the number of orthodontists that there are. In the longer term with austerity and cuts and efficiency savings is orthodontics going to be in the NHS during my working life? Is there a need for a full-time orthodontic Consultant in a hospital, in a district general hospital, taking up space? That's my view of it.

SRM2: For me, back to it. I think your question was, do I see myself working 10 PAs or whatever. I think for me, it'll be part-time, if I can do a bit of teaching with that then that's my slant. I'm in private practice at the minute and I do 12-hour days Mondays and Tuesdays. It's just a sausage machine, it's not enjoyable, you just do it. It pays the bills very well, but I don't see my life there. I see myself in academia with a bit of teaching. I think part time Consultant.

JJ: The next question was, have you considered academia as a career option? As in formal academic training.

SRM1: Yes, like an ACF?

JJ: Yes.

SRM1: Yes. I have considered that strongly but at the time I didn't want to be a part time trainee. I didn't want to be a 60 % trainee, 40 % research or 50:50. For more logistical reasons more than anything else. I think it's harder to organise part time life. It would have extended training. My view is that if I want to do a PhD in the future then that option is still open if you still have contact with a medical or dental school.

SRM2: I definitely will consider it and hope to do it. For me it'll be after the Consultant training and down at the Peninsula Dental School and do it that way.

SRM1: I think it is something, if you don't mind being a trainee or on a trainee salary or even half a trainee's salary. It's something that you can quite easily do as a Consultant. Also, like SRM2 said it's the variety in the post, if you can put that into your job plan as well.

JJ: Do you perceive any barriers specific to you or people coming into orthodontics, any barriers such as the cost of training?

SRM2: I didn't have the cost of training because my registrar training was paid for by the Navy and I had a wage, so I can't really answer that.

SRM1: I was quite affected by the cost of training because I didn't expect the fees to be as high as there were. So, Bristol was a three-year course with full university fees plus bench fees on a relatively low salary with quite a lot of expenditure. So, if I had my take home, then pay my university fees, I had about £150 at the end of the month, so it was difficult, and I ended up taking loans and that was the hardest bit of training for me, really, was the financial worry. That was by far the hardest bit, the work was fine, but it was the financial worry that was the hardest bit. I spent all of my short career saving towards something significant like a house purchase or anything really and within one year it was all gone on university fees and then the second year I had to take a loan and things like that. So, that was a significant barrier, but it wasn't something that would stop me, but I could see it stopping someone else that who potentially couldn't access additional funding because you can't get additional funding from the NHS or the student loans company for a second degree when you are being paid a wage.

JJ: Did the salary impact on your decision to do senior reg training?

SRM2: I'll start, the salary is a lost leader for me, I am making no money doing three days a week. My trip to Bristol for three days, coming up here £600 so, on three days salary it is not going to last. If it hadn't had been for practice and for my pension, I couldn't have done it.

SRM1: So, essentially you are training for free.

SRM2: I'm training for free.

SRM1: Essentially.

SRM2: I love it. I've had two days a week for the last 18 months and my wife thinks I am mad going back to full-time.

SRM3 joined group

JJ: SRM3 can you briefly tell us why you wanted to do senior reg training?

SRM3: So, the end goal is to have a Consultant job. In terms of that, it's a means to an end for that. Getting more experience, a wider scope of practice as well, that comes into the end goal of the consultant post, ultimately.

JJ: That's sort of similar to what SRM1 said.

SRM1: Is the question why do you want to be a senior trainee or be a Consultant?

JJ: Either.

SRM1: I suppose senior trainee because you want to become a Consultant is essentially the answer. But why you want to be a Consultant is a different answer.

JJ: I guess it's different.

SRM3: Yeah, for me the training bit is a means to an end, obviously I want to do that training, so you can provide that treatment at the end. For me, I feel they are the same question. Why you want to become a Consultant is ultimately what it is leading to. For me I don't necessarily differentiate them because if I didn't want a Consultant job, I wouldn't be doing the FTTA. I think ultimately that's the way I think about it.

JJ: So, we have been over what has helped people make the decision and touched on mentors and for SRM2 a bit came in about the work life balance and family considerations. Was there anything that helped you make your decision to pursue senior reg training?

SRM3: I mean for me, I probably wanted to do Consultant level training before I wanted to do Orthodontics, if that makes sense. So, I knew I wanted to feel like I had a skill in a particular area of dentistry that you have slightly better than average skills in and that was what appealed to me more than most and I came into orthodontics quite late I suppose as choosing it as a specialty. In terms of mentors, I'm lucky both of my parents are in the dental world and both have gone down academic type pathways. They've always been there to support me, I wouldn't say push me, but it was always nice to have that information there, be a very useful resource to go to of knowing what the pathway involves and also where you get to at the end and what that involves?

JJ: Would you consider academia as a career? As in formal training?

SRM3: In terms of, doing academia to be doing research in the long run, no, because I wouldn't want the pressures of having to bring in a certain of income into the university and get things published. In terms of more academia route, I think it's a relatively new thing but education in the university side is becoming more important to them and that's kind of more, the route I am interested in going down which is becoming kind of a separate pathway to research academia and academic. Almost in two separate pathways but I'm not really aware of that as a thing in Bristol but I know in other universities they are almost considered as separate kind of entities and people choose to go down one of the other.

JJ: Just before you came in, we were talking about the barriers for sort of for you specifically and then generally people coming into the profession. Were there any barriers that you have experienced?

SRM3: For me, I had a bad experience with recruitment and getting into ST1 initially. I wouldn't say that put me off, but it made me apprehensive of the process. I think going into the FTTA bit you know the numbers are on your side and you are a bit of a buyer in the market unlike ST1 when you are desperate to get in. That was one barrier. I suppose another barrier is at the end with Consultant posts and also seeing the current work force that are, that are working very hard and being overstretched. That is one thing that slightly puts you off and increasing pressures on NHS staff and university staff to kind of perform. I know those pressures would be in practice as well but, yeah, I always think there is that question mark in the back of your head where the job at the end is, exactly what you hope it to be and how is it going to change between now and the future. Why are you laughing SRM2?

SRM2: Me and SRM1 said the same thing. It's going to change in our lifetime.

SRM3: Exactly.

SRM2: Your lifetime, I'll be retiring just after.

SRM3: You said you are going to work for eight years, didn't you?

SRM2: I am, that's when I get my final pension. All this for eight years work, it's great.

JJ: What do you think about the length of training? That's to everyone, we didn't discuss that before you came in.

SRM2: Do you mean the two years or the whole lot?

JJ: The whole thing, do you think it's long enough, is it a barrier?

SRM3: I think the length of training is about right. I mean I don't know, I'm not at the end to really look back and reflect to see if it was sufficient. I kind of get the impression it is about right. Ultimately for orthodontics for your patients you want that continuity of care to see someone through from start to finish, which is one bit you miss with the FTTA bit because two short to get cases started and finished. I don't think it necessarily needs to be longer because it is more about the planning and the NHS side. I think seeing cases start to finish wouldn't make me a better Consultant at the end. I don't know, I may change my mind come the end.

SRM1: I definitely think the FTTA is too short. I think two years isn't long enough to do complex cases and that's where I see a benefit of run through where in your third year you take on the complex cases. So, essentially it would be better if it was two years, then three years. It used to be three years for senior reg training and three years for specialty training and it got changed to bring it in line with medics more than anything else, not because it needed to be shorter.

SRM2: I think there's an element, like you say, finishing the cases, I think seeing the end is a nice thing. Me being part time I get four years, so therefore I will see them, and I can reflect. I can see SRM3s too.

SRM3: I think that's the thing, coming back to the barrier thing, I think speaking to an awful lot of people, I think if it was more flexible to do part-time training for men and women it would become a lot more popular. I know that is a big barrier for a lot of colleagues who don't want to commit to doing it full-time for two years but would rather do it part-time where they can do a bit of practice and earn some money for once in their life.

JJ: That was one of the questions, why do you think people are not applying for senior reg training?

SRM3: I think ultimately the job at the end puts a lot of people off, not everyone's cut of tea. I think at that point in your life, careers have started to become more important as is families, priorities for teeth and work become lower on the pecking order. That's probably some of the biggest reasons from colleagues that put them off.

SRM1: I think from people I have been talking to the barriers are; the fact that they don't want to be a Consultant, the recruitment process itself is a barrier, because it is a bit rubbish, the geography issues are a barrier because they won't have as much choice, in terms of where they can be. From people I've talked to who are senior trainees now that are a year, year and a half in, two years in, a lot of them wish they never did it because they are just fed up.

SRM2: It's a lot time to be studying with the exams. You know, I think having a break and going back into it, going back into it, it's the pecking order, you may be a senior trainee, but you are still a student and I just feel people who don't do it, the one main reason is they don't want to do the difficult cases. They are much happier taking the money, doing the easier cases, not having the stress, hassle of the hospital and having someone else to clear it up. It depends on your outlook, because it's the challenging cases that I'm hoping will keep me interested in orthodontics compared to the people that want to mend them, get through and get the money.

SRM3: I don't think you can necessarily say that the people that have gone through to get to the end of their specialty training are necessarily money driven, because they probably would have peeled off from some of these jobs and pathways sooner, too earn money in practice. I don't think that many people in orthodontics, that money is their main driver. I know for some people. I think chatting to some FTTAs that have gone through when I left London, the final straw for them was the ISFE exam as well, of just how ridiculous it sounds and that it doesn't seem to be a real-world exam, in terms of what you are doing, all aspects of it, the critical appraisal, the difficult cases. I think the management bit is probably the most realistic bit to what you do but ultimately, they say they are asking you all these policies and stuff, but I mean in the real world you are looking them up on the Trust Intranet to find out the details. So, I think there is a little bit of yeah. I know a few people that were

close to throwing in the towel and not doing the ISFE come the end, but they thought they had committed so much by that point. That certainly another barrier as well.

JJ: So, I was just wondering what your thoughts were on the 18 months continuous training rule for women in training?

SRM1: Is that in order to sit your ISFE you have to have sit 18 months?

JJ: More for the ST1-3 years that you have to have done 18 months to sit MOrth exams. So, if they had a maternity break, they would need to defer their exam so that they had 18 months continuous training before they could sit their exam.

SRM1: Right.

SRM2: That's a difficult one.

SRM3: I think for me, where does that 18 months come from? It's not necessarily long enough for you to start a case and then see it through and to say you treated that case all the way through before MOrth. So, I think the whole idea is that they want you to have three cases or five cases, whatever it is at MOrth, saying that you have played a substantial role in treating that case. I think if they want to maintain that, I think cherry picking three cases I think doesn't help. I think you probably need to present a whole portfolio of quite a few cases that you have treated to show you can manage a range of malocclusions and you can discuss what went right and wrong on each of them sounds like potentially the way some of the exams may be going. I think as long as the training fits into that and you can provide that portfolio of evidence, the 18 months seems a bit, I don't know, I haven't really been in it long enough to know if that is a good time frame to allow you to do that or not.

SRM1: I'm trying to think of a situation when you wouldn't have 18 months of continuous training?

SRM2: If you had two children.

JJ: So, some of the Consultants have said that they have potentially plucked the 18 months out of the air because that is the average length of orthodontic treatment time. For example, one of the junior registrars has been on maternity leave and she can't sit her

MOrth exam with us, it is later, because she needed to have 18 months continuous training. So, she had already done some training in the first couple of months but then has gone on maternity leave. The Consultants seem to think that it didn't matter where the time came from as long as you had done the three years and it didn't necessarily have to be 18 months continuous.

SRM1: As in, she is having some time off but still wants to sit MOrth at the same time as you?

JJ: Yes, but it needs to be needs to be 18 months continuous before she can sit the exam.

SRM1: I thought you could have three months off and not change you CCST date.

JJ: I guess the problem is just taking three months off maternity leave.

SRM1: But, orthodontics according to the SAC is a time dependent specialty. It's not about competency it is time dependent. You don't complete training by completing these competencies, you complete training by completing this number of months then it's coming from the SAC then. Right.

JJ: Yeah, this isn't coming from Bristol.

SRM2: Is it a new rule? I'm sure people have gone through before and had a baby and sat MOrth at the same time?

JJ: I think it depends on when they have their baby. I think if its closer to the end, they will have done 18 months, have their cases and they can do it. I think if it's a year in to training.

SRM3: Is it 18 months if you're doing it part-time, like if you are doing 1 day a week versus 18 months full-time, 5 days a week?

JJ: I don't know actually.

SRM3: Because if they talk about experience, then it should also relate to the number of days?

SRM1: I think it's pro-rata. I'd imagine so, because the length of training is pro-rata, depending on your percentage.

SRM2: I think the common-sense answer would be a case by case basis depending on when they have their baby, a portfolio of evidence like SRM3 said could mitigate if they hadn't done all of the bits and pieces and build up an alternative to their rule. I'm just interested to know what the background was to their rule and without someone from the SAC explaining and I don't think without that we can properly answer it.

SRM1: I suppose, I thought if someone had maternity leave and had their training extended.

JJ: No.

SRM1: So, have someone go on maternity leave and have the same number of months in training but not be there for part of it.

SRM2: The SAC could quite rightly say, you know, there is two people in the family, she could split her maternity with her husband. You know, there is that balance as well. The woman doesn't have to take all of the maternity leave, it could be split but that is a personally decision.

SRM1: It would depend on both employers whether the partners employer is amenable to that as well.

SRM2: How does it apply for a bloke as well, if my wife wanted to have a baby and wanted me to do half the maternity, how would that work, would my training be mitigated as well? Or give us the same rule? I don't know the rules.

SRM1: Quite a few of the people up in Leeds have had and Yorkshire, have had children during their ST1-3 years but it has extended their training.

JJ: It has. I think the problem is, in Bristol, it can't.

SRM1: In Bristol, it is a three-year programme, that is the programme. You could potentially carry on with the academic programme within three years but extend your clinical training.

JJ: I think that is the difficult thing in Bristol that you can't extend the training.

SRM1: I suppose that is the rigidity of the academic programme, rather than anything else

SRM3: I know there are different commitments between, even if you are doing a few days a week with the university that can still count as full-time with the university and then with your Trust and your NTN and how many days a week you do there. I know that we had in our year, they were part-time, they did three days a week but as far as the university was concerned still counted as a full-time training so still went ahead and did their doctorate in the three years but their MOrth and NTN was taking over four and a half years to get to the end. I think it's the way each place is willing to add up and say your commitment to the post, because technically you are a full-time student and a full-time employee, and they all overlap as well. There are different interpretations from the different institutions as it were.

SRM2: How does it affect the medics, out of interest? Do they have the same rules?

SRM1: I think a lot of medics don't have the academic part of their training. They can go out of their programme to do academia, and if they are on mat leave during a training programme it extends their CCST date.

SRM2: So, it's similar, it extends their training.

SRM1: Unless they can demonstrate their competencies during that time frame, even if someone is on a research, if they are a full-time trainee, they can have the same dates.

JJ: Session close.

Appendix VII.7: Female NHS Orthodontic Consultant and clinical academic focus group transcriptions 10/09/2019

People present:

Jenifer Jopson (investigator) - JJ

Dr Patricia Neville (acting as notetaker)

Participants:

CF1

CF2

CF3

Introduction to focus group

JJ: Why did you choose to become an orthodontic consultant?

CF1: Because as an undergraduate I really liked it and we had hands on teaching and we had enthusiastic supervisors.

JJ: And what made you go on from a being a specialist to be a Consultant?

CF1: Ooh I don't know actually. I like the variety that it gives me here. You get a range, so it's the teaching I suppose and the ability to be able to be involved in different bits, not just treating patients. That's it for me I suppose.

CF2: I also qualified in Bristol, so I had a similar undergraduate experience. So, I had lots of hands on and an inspirational undergraduate teacher who was enthusiastic and positive about orthodontics, similar supervisors, each session so you kind of got to know you got a feel for it, had your own patients. Yeah so that's probably why I wanted to do orthodontics. But why did I go on? Similar reasons I guess, and I guess I didn't feel quite finished as a specialist. I think I wanted to finish the two years and be as good as I could be and if then I chose to be a specialist then fine, but I got the most out of my training that I could at the time. I suppose in those two years I enjoyed the teaching, the management and the variety.

For me, I decided I wanted to stay in the hospital system, but I can still do specialist practice. I can do both.

CF3: I had a different experience in my undergraduate, I was not interested in orthodontics at all. It was not hands on taught. I trained at a different university, so not Bristol and we had zero hands on. We just watched the registrars treat patients and then had to go and find journals to back up why they used certain mechanics. I'm a hands-on person so it didn't appeal to me at all. I wanted to do oral surgery or paeds. I did a year of paeds then a year of oral surgery and it was seeing the orthognathic and the cleft, during both those specialty years, DCT2 and 3, that I thought what do both of these things have in common? Orthodontics. Then I am still dithering about doing the further two years. I'm more and more over the course of the last year, more keen to do it, because of the variety and the different things you do on a day to day basis, rather than being in one room, seeing generally, straight forward cases.

CF2: Just to add, sorry, just thinking. I did an SHO job at Southmead, which was 50 percent maxfacs and 50 percent ortho. Which you don't really get now and that was really good. I think for me, I then though, yeah absolutely going for this. That was good.

CF1: I chose jobs that had a mixture, so my first job was at Southampton, where it was a 50:50 split, then I did oral surgery, then I did Cheltenham which again was not quite 50:50 but was close. From then I knew I wanted to do orthodontics.

CF2: I suppose I did do maxfacs, I did do restorative, I did a path job. They were all interesting but in a process of elimination, it did make me think, I do really want to do orthodontics.

JJ: So, you have already sort of covered this, the motivators that helped you make the decision. Was there anything else? Then specifically anything to do with mentors, or gender related mentors or did that not make a difference?

CF1: It's role models, so for me. My first supervisor was someone called F, who was a lecturer here, he was good and enthusiastic. But then we had a new Consultant that came in, G and it was her first Consultant post, she was new, and she was female, and she was

sort of that role model and inspired me I think to do orthodontics. Although I think, I still at that point didn't mind what I did, although I did like orthodontics. She was very enthusiastic about it and supported me during that. I think that's always helpful if you've got someone that says, yeah you can do this and go on with it so.

CF2: Yeah, so I think for me, H was my undergraduate tutor, so it was great for me. CF1 was a couple of steps ahead of me, all the way, so I guess actually for female role models who were a couple of steps ahead, where you could go, ooh what should I do next then, you were there as well. Having G, I didn't even know who G was until I got on to the registrar programme, but she was then who we would work with in Bath and again she was phenomenal. She has been, in actual personal life and I had children whilst doing my senior reg training and when I think about some of the ways I've structured my career with regards to my work-life balance has come from G.

JJ: That's interesting.

CF3: I would say again, I had a male consultant sort of help me, pick orthodontics. Who helped me a lot during my oral surgery year and went through more about the orthodontic side of things, in the surgical cases we were doing. He said that having known me over the course of the year that I would be most suited to orthodontics. We then discussed the merits of it, especially over surgery which I had always liked it. If you are going to be on maxfac on call, if you're on call throughout being a registrar and a consultant, it does have a big impact on your family life and that was quite important to me. So, fairly early on for me, oral surgery and maxfacs were out of the running, mostly for all of those kinds of reasons. Then paediatrics was just, I liked paeds but I thought orthodontics is a bit more, I don't want to sound disrespectful but I thought it would keep me interested for longer, every case is different whereas I thought with the hands on side of things of paeds I thought, well I can do a root canal treatment and then keep doing this, keep doing this, but I would always be a bit frustrated that I wasn't treating adults and seeing more difficult things.

JJ: That's interesting what you said about the on-call rota in maxfacs. Was that a decision, in that there isn't an on-call rota in maxfacs? Did that help you make your decision?

CF3: Yes, definitely. I think it does for a lot of my friends as well. A lot of my friends start off thinking they would like to do stuff. And I've got friends and family who are doctors and even though it hadn't been a consideration for them in the beginning, because they knew what they had signed up for, but actually when you start living and doing the job a few years down the line, it certainly has taken its toll on a lot of my friends. My sister is a doctor, she's gone into research now and she does enjoy the perks of not having to be up through the night.

CF1: I mean, I never wanted to do medicine. If I had wanted to medicine, I would have done it from the beginning. But I always thought I wanted to be a dentist. I actually thought I just wanted to be a general dentist until I started doing dentistry and I was drilling and filling. I suppose it is the wider sense in that, in most other forms of dentistry, you destroy things, you're putting in a filling or taking teeth out, whereas in orthodontics…

CF3: 100 percent.

CF1: You are, yes often taking teeth out, or asking someone else to do it for you, but you are making things better and not sort of destroying. I think my undergraduate time, showed me that because we were hands on with orthodontics, so I think it shows you what you can do. I think that it is a shame if you don't show that to undergraduates, because they take that forward into their practicing life and they don't see what orthodontics can actually achieve. But I did maxfacs and it came with on call and I was quite happy to give it up.

CF2: I did maxfacs because I needed it to get into ortho, but it was not a six months that I enjoyed. Again, I'm a planner and perhaps that's why ortho appeals to me, I don't know. The uncertainty of maxfacs and the bleep and what was coming in and you'd go to bed at whatever, 10 o clock knowing that probably the person you were going to get called for at 1 had probably just walked through the door. It did my head in. I couldn't stand it.

CF3: It was great fun for a year, I found.

CF1: Yeah it was alright.

CF3: But long term I agree.

CF1: However, it did prepare me very well for having young children, babies, on call, you get used to being up at every hour in the day.

CF2: But when you've done your on call for 48 hours, you can't keep the bleep.

CF1: That's true. When do you give the kids back? That's what I want to know.

CF2: You just keep on going.

JJ: Did any of these things help your decision – the salaried position, or self-employment?

CF1: Not really, I suppose, yes it comes into it but, CF3 is not at that point, but I suspect, definitely for me and definitely probably for CF2, if we wanted to make money out of orthodontics we wouldn't be sat here as Consultants.

CF2: We'll never make money the we, you know the differential from when we qualified to being in practice. So, it isn't a money choice, it can't be.

CF1: So, you know I was at a time when, you know I'd see colleagues that came out at the same year as me graduating and they are now retired because its choices, but I would still wouldn't go back on my choice. I still enjoy what I do.

CF2: I agree.

CF3: That's why people do retire early because they don't enjoy doing what they are doing.

CF1: Well because I think there is a cross over and I suppose I see it more now being slightly older and having seen people go through that, it's the cross over that, I think you stop, well I detect in my colleagues, that they stop seeing it for the enjoyment of doing orthodontics and they start seeing, quite understandably that business is a business and then it detracts from some of the enjoyment you get. Maybe having a salary, we have different stresses but nevertheless I think you can enjoy the job for what it is.

CF2: In a hospital you are not alone, you have this team around you, provided that everyone gets on and it is quite a nice place to be. I suppose we are all in slightly different stages aren't we. So, you know, when I qualified, I didn't want to go, but there weren't many jobs

in specialist practice and the contract had already changed to a point where, when you qualified could you have opened your own practice?

CF1: Yeah. I was in the same cohort as I

CF2: So, you could open your doors and ask them to come. I was at a stage where I could open privately but I would need to be on some sort of contract, which would be dependent on and I think it's even trickier now and we have got the tendering. So, it is interesting now that we're all at slightly different stages from when we came out and what was around us at the time.

CF3: I think that does, that did, does play in the back of my mind that specialists job are fewer and far between and the jobs that there are, you won't get a job that is five days a week in one place. You'll have to do a job here one day, then two days there and you're more of a satellite worker.

CF2: It is quite hard isn't it?

CF3: Which is hard, yeah. Specialist practice versus hospital, I think the salaried, I work on an hourly basis and get paid by the hour and although I don't like to, if I have a day off, I'm thinking, right how much money have I lost that day? That's not really a nice way of thinking about things and that's not how I really think about anything else in my life. Whereas on my salaried days I don't think about it at all, I just come to work, enjoy it and if I have a day off, great I have a day off, rather then, oh I should really be in work, that's x amount that I'm going to have to make up another day.

CF2: That is a self-employed state of mind.

JJ: Do you think that impacts on your work-life balance or on having a family?

CF3: It does, especially around maternity leave, because I don't have a family yet, but I know my boss had two weeks off before she had to come back and start seeing her private patients. So, her baby came two weeks early so in total she had a month. I saw her private patients for the first two weeks, so she had a month, but she still had to come back for two afternoons a week seeing private patients and had to like breast feed in between patients

and pump in between patients. Sorry for being graphic there. It's true, the practicalities of it, it's difficult for private. For NHS, it is a lot easier, but you still have to find a locum, so that is a real big factor and a real big plus factor or hospital and consultant training rather than specialist practice.

JJ: And the fact that you have gone on to have a family, did that ever play a part in your decision?

CF2: To do ortho in the first place?

JJ: Well to stay on the career path to become a consultant.

CF2: No.

CF1: No, I didn't meet my husband until I was almost at the end of my senior registrar training. So, there's never a, when I say there is never a convenient time to have children, I don't mean it quite like it sounds. In a career structure, you are already thinking, CF2 will probably have a different view because she had children at a slightly different stage as I had mine. I had mine as a Consultant which means I was no longer have to sit exams and things like that but on the other hand you've got your patients there, you've got that, you still have that sort of, sense of, what's the word? Responsibility, to your patients. So, I'd say I'm not really a baby person, so I was quite happy to get back to work and just see my children, it sounds like I don't like my children and that's not quite the case. I'm not really a baby person, when they are small, they are much nicer now. So, I suppose that didn't really influence, to a certain extent that wasn't the overriding, I was quite I knew what I wanted to do, I knew how I had to get there. So, I didn't meet my husband until later and I was almost at the end of my training.

CF2: So, I am the opposite, I met my husband at dental school, we were married at 25, he was working in practice and I guess, if I imagine that I was working in general practice as well we would have started our family a lot earlier. But I knew what I wanted to do, and I wanted to get on to Bristol and I knew that there was that three-year cycle, so I needed to make sure I was ready, to give myself the best chance of getting on. Then once I was on, having children during, that three-year period, I say was not tolerated, slightly jovial way,

you just wouldn't have had, so our overseas did but you'd be slightly scared about having kids during that three-year time. And to be fair it is a really tough three years and I don't think I could have personally managed having a baby and delivered what I needed to deliver. You feel like you get your money's worth out of those three years and child as well for me, would have been too much. But then the compromise was my husband and our family plans were then during my senior registrar we did start a family. I started full time, had my baby, so I started in the October, J was born in the May, I then worked four days, so I completed my registrar training on a slightly part time basis.

CF1: I think things have very sensibly evolved over time and I would say that it is probably because there is a greater female presence in the workforce for orthodontics now, going all the way through, having gone through having children and having to do training etc. Like CF2 said, how it would be perceived, if we did our courses, whereas now actually common place.

CF2: That's how it should be.

CF1: That is how it should be.

CF2: I suppose it was my choice not to have children during those first three years, I didn't think I could cope.

CF1: Well I hadn't met my husband so.

CF2: So, yeah then I trained part-time so again orthodontics is a career. The training pathway was great, I was able to finish my training and I was about six months behind my contemporary who I started with, it was fine. Then I went on to have two more children when I was a Consultant. It was alright. Interestingly I took six months off for all of my kids but I did, you do feel, that responsibility to come back, not just for your patients but for your team, because you know that when you are there, there are people covering for you, people that are already busy, already stretched and you are asking more of them, so that's pulling at your heart strings a little bit as well.

So, I know people, my sister is a speech therapist, they are taking a year off. I couldn't have done that. I don't think. I enjoy my job and I wanted to come back and that feeling of belonging I suppose, to come back to the team.

CF1: But everyone is individual.

CF2: Of course.

CF1: You know people are very. I think my husband thought I would become an earth mother when I had my children. I was fairly confident I wasn't going to become earth mother and funnily enough I wasn't earth mother. So, yeah.

CF2: The options there.

CF1: The option is there are everyone is different. You never how you will feel when you have children, and everyone is very different. I suppose for me my career is very important to me. Not more important than my family or my family life, but you make the choice. And moving on and I'm sure others will have other views but if you, I think its much more challenging if you take the role that we take at the moment and for both parents to have that role, very full on, active, I work full time, I often work in the evening, this evening and at weekends, I often go away and if you had two people doing that then that's hard if you then have a family as well. So, when we first had our kids, the first one then the second one, my husband he's not a medic or a dentist and he was going up the career step ladder and we sat down, and we said we both can't do this. You get to a point where, you sit there with your diary and you think, the kids have to be picked up from nursery and none of us are here. Often because you move around you don't have family that are close by that can just pick up and he just decided that he wasn't that bothered about working, so he was quite happy then for me to carry on and he works but he is more around to pick up the kids and things like that.

CF3: I think that works really well.

CF1: I think you do have to have that balance but then it does put extra pressure on, when I say extra pressure, I don't feel hugely pressurised, but I do go out to work because that does

pay the school fees and amongst other things, I do enjoy the job that I do. There is that slight push with things like that.

CF3: My now husband would well and truly like to, for me to work full time and he be a full time stay at home Dad, it has been discussed. He said you feel as ambitious as you feel you can, you go for it. Whether or not that will be the reality of it when time comes around, you just don't know, but I think ideally, it's working quite well. Men are getting a bit more involved or alternatively you get help, you get a nanny or an au pair or a child minder. I think there is a lot more of that within Consultants than necessarily working part time and general dental practice or specialist practice. Not just in orthodontics, in paediatrics, in my experience oral surgery across the board. I think people who are in the hospital seem to have a little more help from.

CF1: I think it is interesting, when I was pregnant with my first, my Aunts, who are an older generation, they all asked are you going to give up work and I went no, and it was like this, what do you mean, who is going to look after the baby? I said I'll take maternity leave then she'll go to nursery, but you've chosen to have this baby, yes and I've chosen to work for the best part of 19 years to get where I am and your taxes and have paid for that, so would you like me to give it up then? Oh, they hadn't considered it that way and I said its interesting, would you have asked my husband? But there is that, I think it does get less now.

CF2: I think you are right, it has changed.

CF1: People have work and have taken. There has always been those, but I think there is more now.

JJ: Maybe this is a good time to ask here, what do you think about the 18 months continuous training rule and women going on maternity leave.

CF3: I think it has some merits, in terms of it's practical, but you can't, the training needs to fit better and be more flexible and be, I think the training needs to catch up, it needs to modernise. But I understand that it's a bit of a pain.

CF1: I suspect for orthodontics, whereas for a lot of other specialities you are going treatment, paediatric dentistry for example, you take this patient and it is continuous, but

you are doing piecemeal treatment, so you are maybe treating the trauma, then keeping them on, you know, I can see that. But in orthodontics, you are going to be going to get a patient done in 18 months so I can see that and absolutely agree with what CF3 said and probably for our specialty it probably makes more sense because otherwise when are you going to see the patients through and how are you going to take those patients on and I think that is more challenging if you are not there continuously. All things are workaround able.

CF3: I just don't see how they can enforce it and that's what my problem is, that it is forced, not a forced thing but it is very.

CF1: Rigid.

CF3: Rigid, I do understand but there has got to be better ways around it.

JJ: So, one of the things that came up in the literature review was along the pipeline, people drop out and right at the top, are the academic roles and there are mainly men in those positions and why women may drop out, whether it is because they don't want those jobs or because there are reasons why. Did you ever consider academia as a career option?

CF2: We have been approached.

CF1: We have. Not really. I always wanted to be an NHS Consultant and I didn't really want the pressures of an academic role. My passion is treating patients, not writing research papers. When you take an academic role, you reduce the amount of clinical time and that is where my interest and my focus is. So, for me, it wasn't the academic pathway that put me off, I wanted to do orthodontics and I like the hands on of treating patients and I didn't want to really reduce that time, because that is where my interest is, rather than research. That is alright, that is the advantage for me, I feel I get the best of all words working in dental hospital because I can pick up some of that, can help with supervision and write papers and things like that. But I don't feel like I have this pull or quota that I have to hit to get so many research papers or students through.

CF2: So, I thought about it, briefly, I think as a follow up after my SpR training. For me, similar, I think it was you know, when you boil it down to what do you enjoy doing,

especially in the dental hospital environment, you get to have that kind of variation without having to do a PhD, having that added pressure, having two masters, so you can still be university. I think at the time I had a young family, for me, I felt split in too many ways, there was my university master, my NHS master, I'm trying to balance a young family on top of that, the time it would take out of my family time to complete a PhD for me, it was a lot extra work and I couldn't quite see the benefits being enough.

CF3: I would have thought, you probably would know more. But if you are an academic there is a certain amount of time that you need to spend at home reading, researching, writing.

CF2: It never stops, it can't stop.

CF3: Whereas if you are purely sort of clinical, there is still a huge amount of take-home work as well but at least there is less stuff you can do at home. If you are an academic it will leach into family life a lot more.

CF1: My job leaches into family life now.

CF3: A little bit, but not as much.

CF2: It leaches as much as you wish to.

CF1: I suppose ultimately you are your own master. So, therefore you can choose to do more, you can choose to do less. But I know what you mean.

CF3: Yeah, if you are an academic. If you are slow at writing a paper or so, it can go on forever. Whereas if you have got to do some new document, it may go on for a certain amount of time but generally it is more finite.

CF1: Yeah, I suppose it is how you manage it and what you take on, really.

CF2: Some can be very good at being an academic, some good at delegating.

CF1: True.

CF2: So, although their papers are clocking up, it doesn't mean they are writing a whole lot.

CF1: Very true.

CF2: You can be at two ends of the spectrum.

JJ: Do you perceive any barriers in pursuing a career in orthodontics? Some examples are the cost of training, length of training, nature of recruitment or work life balance.

CF2: We have all come at it at different stages. You have come at it through the national recruitment process, we didn't have to do that, so it's different.

CF3: I thought it was very straight forward, I wouldn't say that was a barrier at all, for men and women.

CF2: What the national recruitment process?

CF3: Yeah.

CF1: There doesn't seem to be a barrier at SpR level, we seem to struggle at post CCST level, getting people to stay on.

CF2: Well, I suppose it is how you look at it, from a candidates point of view, you had a one in five chance of getting on to do ortho this year.

CF3: Oral surgery is horrendous and restorative.

CF2: I thought ours was really competitive, that makes me feel a little bit better then.

CF3: It's competitive but in terms of a ratio, its pretty good. There is a huge number of posts.

JJ: I know in one year there was only five or six jobs.

CF3: There's only so many jobs coming up at a time.

CF2: Is money a barrier, I don't know.

CF3: I think yes. Yes, for some people. I think interestingly I would say now being at the other end of my training really, some of my friends who are interested in doing orthodontics

now, those barriers that I found fairly small are now huge, the cost of training, they're already paying mortgages, they have kids, how are they going to afford all of that? You get use to a certain lifestyle, I guess. I think it's the time and where are you going to go.

CF1: If you are in an established practice to give up all of that and no doubt you will give up an income to do that and you will never recoup that loss of income.

CF2: And it has always been that way.

CF3: With national recruitment it is harder to necessarily pick where you end up and I think that is a barrier for people who are my age, 30, people are very much settled in the same place. They don't want to keep moving around, so those barriers are a lot bigger.

JJ: Were there any barriers for you not going on to do senior specialty training?

CF3: No, I don't think so. Maybe, I found out I was getting married and have some time to afford it. I think I needed a bit of a break from the exam treadmill and just wanted to get good at doing the basics before moving on to more difficult stuff. So, I knew I had that locked down, probably for more of a confidence thing.

CF1: Some people do come back into it, not many do when they have been in practice for a long while. We're having more interest from specialists that have been out two or three years. Like K did eight, nine years then came back into a Consultant training. I think that is harder as you get slightly more set in your ways.

CF2: The income.

CF1: But also, you lose the, actually I don't think was true for K, she was teachable, but some people come back into training and some people drop out of further training. Having done your registrar training, then go into specialist practice for two, three years, four years maybe and come back in thinking, you're back into that taught mentality because it is a different case you are seeing there, and some people are more difficult to train than others.

CF3: I think it is malleable. Also when you are in practice, you are kind of your own boss and you get use to not only the clinical side and the treatment planning, but you learn, well I know I can order this equipment, I know I can work when I want, I know I don't want to

work Friday afternoons, I can have Friday afternoons jolly. You have got to be malleable in terms of your, the academic side, the day to day running of being in a department rather a single room in practice.

CF1: That's the change, between having a salary and self-employment. You get a degree of flexibility with self-employment and some of the risks, uncertainty but in salary brings you structure which sometimes can be quite rigid and lack of control. It's like all jobs, there' swings and roundabouts.

CF3: I think talking to friends who are, my course, the course before you guys, the ones that are in practice now, they, I think the money is one thing, the financial side but it is everything else that they moan about more. They like working the hours that they like and like being able to take leave when you want to, and I can order the equipment I want and work as hard as I want on this day. They like they've got control and as orthodontists we are quite controlling.

CF1: Really?

CF3: I think that's more of an issue for some people.

JJ: Was there anything else anyone wanted to add?

CF1: I don't think so.

CF2: I mean the only other barrier why people might drop out, is the obvious, for us, with our recruitment hat on, we get all these people going for ST1 and then we don't for ST4 and why is that. For us that is our worry, hospital consultants going forward and knowing and loving the jobs that we do, you kind of wonder we have so many people at that stage and then everybody drops off for the next stage. We have tried to look into that.

CF1: We have. It is multifactorial really. It is a little bit of what CF3 said and there is a bit of a rebellion towards, against the rigidity of the course. I think you are right, you can see it, absolutely and there is an exam at the end of it and there is lack of control over where you go in terms of geography and people like to train where they are already settled. It is like CF3 said, people are a little bit older.

CF2: For me, my husband had already bought a practice so if national recruitment had sent me to Newcastle I couldn't, I would have been going into practice.

CF3: That's hard, you can do it but it's hard. So, you know the price of doing the exam, some people have commented it's an expensive exam to sit. In relative terms, it is not that expensive, but actually you take a salary drop to do your post CCST training and then they charge you do it exam and you've already paid to do the MOrth exam and it's all relative, but nevertheless there are little things that might tip the balance really. I'm not sure what we can do to address that.

CF2: I think some of my colleagues were just done, one of my friends her husband said you go on to an FTTA I will divorce you, I can't take anymore, I'm done.

CF3: And similar things even in my course, like my other half was a bit like, you know can't we do something fun this weekend, no, I've got to do an essay, we can't go to that family thing.

CF2: Some people are just tired, and at the point where you need to say, let's do another two years, with another exam, is the time when sometimes you're at your lowest ebb, isn't it?

CF3: Yeah.

CF2: I get that as well. In some ways having that break and coming back should make the ideal candidate, they've bagged a bit of money, they've had a break, they are much better clinically because they've got that volume through, but then life I imagine, having children, the salary, the control, all of those things, if you go out with that intention, it might just temper what actually happens. Then just going through the interview and national recruitment again, it is not easy.

CF1: Just having to get all of your stuff together for national recruitment, the bits of paper, I mean there is lots of things and you just think that's time, can I be bothered?

JJ: That was one of the things, that the senior group had said, the timing of the national recruitment in their year was not good.

CF1: It is straight after MOrth.

JJ: They said they didn't feel like applying for it then.

CF3: I remember lying down, lying down on the chairs in the interview room and feeling so tired, I was just exhausted and one of my friends didn't turn up to the interview because he was burnt out by it all. If doing the extra two years is going to be more of this, then I'm done. Which is the wrong attitude.

CF1: Well, I think they are high stakes exams, your MOrth is a high-stake exam and then when you have chosen to do another two years, that's another high stakes exam.

CF2: The population base gets smaller, everybody knows if you've passed.

CF1: The pressure is different, I sit there with a child that is about to do GCSEs next year and she says, you don't understand the pressure I am under Mum and you think, I think I do. The next exam is always the hardest isn't it? I remember sitting and at times when your computer crashes, which mine did just before my ISFE and I just felt like throwing the damn thing out of the window and it's those things you think, why did I ever do that? But actually, you and you get through it.

CF3: Sometimes the hard decisions are when they are optional.

CF1: Yes.

CF2: I guess there were times in my career when you have a wobble and you think is this the right thing? I had a friend that said well give up the hospital and do two days a week, you'd earn more money, you'd spend more time with your kids, you'd have more control, you can't argue with it. It just depends what you love, what floats your boat, what make you get up in the morning, everyone is different on that call.

CF3: But a lot of my friends already that qualified in 2011, a lot of my friends are now, like you said are moving more from patient side of it to seeing the business side of it and that's what makes them tick and the interest side of it going.

CF1: They end up doing a bit of Botox, fillers.

CF3: They are all going through these trends.

CF1: Orthodontics. Actually, the drilling and filling becomes boring.

CF3: It's stressful, highly stressed, fairly mundane factory line. Generally, as dentists, they've worked hard, they like learning, so you're going to try out all of these courses then you are going to think, right business side of it.

CF1: Some people go into education, but people start to look for other things to do.

CF2: Maybe in a salaried service, it is easier to access those. Whereas my husband did a sports dentistry diploma, so for him that meant 12 days out of the surgery, so he counted every single one of those, for him that meant he didn't hit his units, so we had claw back, so as a family we've literally paid for that, so it's that business self-employed state of mind. Whereas, I can take a day as study leave if I fancy going on a course. There are just different pressures, so it's what you want I suppose out of life.

CF3: These two ladies are very inspirational about how they have managed the family, I mean this in a serious way, before I came to this hospital I had seen a lot of marriages break down with people trying to and I just thought this can't be a surprise that all of these amazing women, with all of these amazing jobs, their having divorces and stuff. I don't know. Maybe I am just biased in that experience, but I did think.

CF2: I think there is an element of you can't have it all.

CF1: No.

CF2: We bring girls up with this idea that you can be super mum, super friend, super daughter, super career woman, you can do it all. No, you can't do it all. At 16 or whatever, you choose, and you will make compromises along the way. You will do as much as you can or comfortable doing workwise. We have got a nanny that's how we manage, I'm paying for my peace of mind so that I can sit here tonight and have this conversation because I know that my kids are happy. You know my husband has been helpful, we have a good partnership I guess, similarly like you guys were saying, am I the Mum that is doing the drop

offs at the school and doing the PTAs, no and I just deal with that guilt. I can't always have the plays dates but it's a balance.

CF1: It's funny, my eldest daughter when she went to nursery, she learnt to say the nursery carers name and my husband, so Daddy, before she said Mummy and now you think, but actually that's life and you work with it and all sorts of things, but you can't have it all.

CF2: You make your choices but my girls when I ask them should Mummy give up work and stay at home, no, carry on.

CF1: I work in practice on a Wednesday evening and they say can you come and see, and I say I can't it's Wednesday evening, I can take a certain number of them off but it's the private side of things, so you can't not see patients you've got to keep going.

CF3: That is the hardest out of all it.

CF1: It is, so I say I'll drop it then girls, oh no no no, that pays for our holidays and things like that, you can't do that. They recognise, they are coming up to 14 and 16, but they recognise that, and you have to take the time. So, when we go away, we go away, and, in the evenings, they do lots of sport and things like that, but we eat together when we can, you have to balance it but there is always pay back and all families do that. You've got to do what works for you.

CF2: Your role model is your mum and for your girls.

CF1: I am fortunate in that my husband has nothing to do with medicine or dentistry, yippee. He's a boring banker.

CF3: My other boss, she got a nanny at 2 months old because of her private patients and she is also setting up a new practice and she felt really guilty about it and thought all these people in the hospital have had their six months, nine months maternity leave and I can't be with my baby and her husband wasn't working at the time either, he was setting up a new business, a practice, it was not possible to go to all of these different meetings, see patients, do this huge amount of paperwork that comes with orthodontics so she got this nanny and in the first few weeks she felt quite guilty but then she felt it was the best decision that she

had made, because I can go home and have good quality time rather than have all of the boring bits and sitting around.

CF1: Actually, I found that, I stopped, I wasn't particularly into these NCT meetings and stuff like that and afterwards, particularly when I went back to work because I could never make the meetings, they were always during the day, when ladies that lunch could have lunch with their babies and I never could really do that. I was actually really pleased because there wasn't any, because you go there, and Jo Bloggs is doing this, and you know learning to recreate the atom at six months and I had none of that, it was fantastic.

CF3: There is so much pressure.

CF1: There is. There's huge pressure.

CF3: Like making organic baby food from scratch.

CF1: Exactly, have you filled your ice cubes with whatever and I didn't really have any of that. I was very comfortable with sending my children to nursery. Our nursery was fantastic, and I say that they are rounded individuals, very sociable girls.

CF2: Very lovely girls.

CF1: That's a family choice, it's not right or wrong. It is amazing how many people will infer you are wrong, oh you send yours to nursery, four days a week. It's like, yeah and. It depends if you are insecure as a person, I think then that might not, that might play to your insecurities really. I was quite happy to be the man.

CF2: I think that goes to all women in careers. That we can have it all nonsense. You pick and choose, what you take out of it.

CF3: I think children, not so much family, or money or time. I think children is a slight barrier, you can't be a stay at home mum and be a Consultant in the hospital working five days a week or even part time.

CF2: Even in practice, my friend had her appendix out and her boss wanted her back within a week to see her private patients. Medically she was in a bit of a pickle and psychologically

she was a mess because she was having pressure put on her by her boss to see these patients because they were private, and someone needed to see them.

CF3: That is probably more of a problem for orthodontics, more so then general dentistry.

CF1: I think that depends on whoever is your boss. I work in practice and I have to say the guy I work for in practice is fantastic. When I did my two maternity leaves which affected my practice. I managed to get a locum to come in, but he was very understanding, and said it wasn't a problem and he would have seen the patients. So, it depends again, it's individuals, it's how you have that conversation, same as family life, same as work life, its getting that balance really. I mean it's fortunate for me, I only work a session so it's like he's having to work all hours God sends to cover my private patients.

CF2: But there is that expectation as women that work. We are the ones that have the babies and, therefore.

CF1: Not much we can do about that.

CF2: No and we wouldn't change that, and I think a lot of this headwork of juggling nursery pick ups and whatever, inherently you carry a lot of that. I think you just do, don't you?

CF1: You do, but my first job was down in Taunton and Yeovil and I lived in Bristol, so in fact my husband did all the picks up and why our child got to know him a little bit better than me because I had left the house by 7.15 and I didn't get back until 6.30.

CF2: That's why we ended up with a Nanny for the same.

CF1: But actually, if the role was reversed and I know friends, that weren't dentists, that worked in the city that use to leave at six in the morning and didn't get back until seven, they never saw their children in the week but that was fine because they were male. It is something different. You get, it always makes me laugh sometimes, with male colleagues, you know I'm used to it if you're bringing up whatever you are doing, and you say well I have to do that. My killer question is always well did you ever have to get hold of the birthday present for the party the following morning at last minute and then go that's what my wife did. Well I am the wife that did that and the person who works full time.

CF2: It’s fine.

CF1: It’s fine, you manage it. You have a present box.

CF3: You work smarter around it.

CF1: Actually, orthodontists are good at that, we’re very good at forward planning.

CF2: I’ve got to pick up some hockey socks on the way home, I’ve just remembered.

JJ: Focus group close.

Appendix VII.8: Male NHS Orthodontic Consultant and clinical academic focus group transcriptions 15/10/2018

People present:

Jenifer Jopson (investigator) - JJ

Dr Patricia Neville (acting as notetaker)

Participants:

CM1

CM2

CM3

Introduction to focus group

JJ: Why did you choose to become an Orthodontic Consultant?

CM1: Orthodontist, or Orthodontic Consultant.

JJ: Consultant or either.

CM2: There are two things, first of all if I start. I wanted to become an orthodontist because I got to the end of dentistry and thought I can't do this for the next 30-40 years, what shall I do? I didn't want to do maxfacs because I didn't want to be an undergraduate again and I thought I'll give orthodontics a go and then I got towards the end of the orthodontist course and I thought I don't want to do this in practice for the next 30-40 years, I'll be a consultant because I don't want to run a business. Then after 10 years I thought I'm a bit bored of this, so is there an academic route? So, that's why I mixed and matched and that's the honest answer to why I am where I am now.

CM1: I liked being a dentist, but my VT GPT trainer was very uninspiring and therefore I sat the exams because I could sit the exams, as in your MFDS stuff, they were just there so I just sat them. I did maxfacs for a year, just thought I might decide midway through that I didn't want to do medicine. I didn't fancy being on call when I was 45. I truly didn't even know that orthodontics was competitive. I took a punt, applied, got very lucky, someone who's ended

up being my trainer, decided I had something he related to, got in, did the course, got to the end, was lazy and applied for a FTTA, rather than, because it was easier then looking for a job and then at the end of that, fortunately a job became available and I became a Consultant.

CM2: I'm disappointed you weren't inspired as an undergraduate.

CM3: Well of course that was the next thing he was going to say.

CM1: Well it was that, I suppose it was that, I got to the point.

CM2: You liar, don't change.

CM1: You get to post SHO and you think what can you do? You either go back to being a dentist or you think what was I quite good at and what did I like. Which is why, it was either going to be restorative dentistry or orthodontics. They are my hats, I'm a technician, so they are my hats and it was just, I liked ortho. Prof B is right, I enjoyed it here and I think when it comes to facilitators and barriers the greatest thing is someone who inspires, you to do something and it is. Prof said this is good, I like my job. If you like your job, you're going to inspire people.

CM3: I left dental school with only 2 areas that I enjoyed doing, orthodontics was one of those, maxfacs or medicine was the other area. So, I felt like a beat in my chest was being a surgeon. My first job was a surgeon. So, I worked in Northern Ireland and I had the displeasure of working for one of the biggest bullies that I've ever worked for in my entire career. He stabbed me with a 2-0 silk needle on two occasions in theatre because I didn't retract well enough. So, that put me off being a maxfac surgeon because I didn't want to end up like that. I remember being on call one weekend and sitting there doing revision for FDS, because it was just at the last intakes of FDS and I thought what the, am I doing? I remember sitting in my final year dinner with an orthodontist who was here, Dr L at the time, CM2 will remember, and she said to me I'd be an orthodontist and hey presto she was right, because I decided at the time, I didn't want to end up like some maxfac surgeons that I've met. Orthodontists seem to be such a happy bunch.

JJ: What made you want to become a consultant?

CM3: I'm sort of an all or nothing type, so for me it's if you are going to do something, do it properly. That was despite one of the people who also influenced me when I was doing VT, which was M, who is a specialist practitioner on the South Coast. He was very positive about being an orthodontist and he invited me to go and work with him but for me, it was you either go and do something properly and do it well and for me that was being a consultant.

JJ: Are there any other reasons, you've already touched on some of them, helped motivate you to make the decision.

CM2: It was a process of elimination. In dentistry there aren't that many options when you get to the end of it. If you're in medicine you've got loads of options, you just really at the beginning of the journey and with dentistry you've got to the end of it and what are you going to do now? I don't want it to sound like it was a second-rate thing, but it was actually a process of elimination that didn't take very long for me. I didn't actually get much orthodontic training as an undergrad. We did it as a three-month block, it was a period of 6 weeks, so we did it for 6 weeks. But actually, I quite enjoyed those 6 weeks. It definitely, it was combined with paediatrics dentistry at the same time and I thought I cannot do that. Like CM3 said the other thing, would you do maxfacs and the idea of doing medicine for another four or five years of being virtually at the same point again didn't appeal to me. But I have to say I don't regret it at all. I think it is the best thing that you could do in dentistry.

CM3: Yeah and that's one of the other things, it offers you a degree of variety that's not there in specialist practice or in being a dentist and I certainly enjoy that bit of it. I wouldn't want to be in the same four walls, in the same practice, whether that is orthodontics or general practice. I've never wanted to do that.

CM1: I think that when we teach the students, I'm keen that they find out what dentistry is. I'm very keen that they don't just say I want to go and be specialist in anything because I think you shouldn't shut your door so fast. But once you decide actually, you're going to do something. As in my VT trainer was so uninspiring, he went to sleep at lunchtime and you're in that two-up-two-down scenario and thinking can I, can I cope with this, same nurse all of the time. As opposed to maybe a bigger practice might be a slightly different mindset and thinking this isn't for me. I think specialist practice it can be, in more hindsight then

foresight, you look at specialist and it can be turnover, turnover, turnover and we have despite, you hear grumblings around, the core of our job is really good. The core of the job, you treat some really complicated things in a safe environment where you've got colleagues around you that you can ask for advice or indeed pass it over or otherwise. So, it's a good environment to do things in that test you. Yeah so as a job, it's a terrific job.

JJ: So, did anything help you in choosing this career path, such as mentors, self-employment, work life balance or having a family?

CM2: Well, I think you are inspired by the people that teach you, like CM1 said. When I was an undergrad, I had two really good teachers. Neither of them where consultants, both were senior registrars, who were still enthusiastic, really up to date and very good. Then later on, we had the Prof in the department who was again, very inspiring. Yeah, so I would say it is the people around you. And then moving on again when you find your consultant job, you tend not to look at the location but the people there again. I've been very fortunate with the people I've worked with and I like coming to work, interacting with the people and that's both at the hospital and the university.

CM1: You pick something, you're given the opportunity to pick something and ultimately, we're very lucky. You've got a good job and you think, what can I do more and think if you don't like it, you can change. So, it is the people around you that inspire you because if you're not going to be happy on your own and everybody around you is putting you down or putting their job down, it's just a trapped environment. People here are generally happy and even for all of the hassle of this building, you've heard or witnessed over the last 10 years or whatever, the core people that do the job and you work with like their jobs and that's good. The day you get to the front door and you don't want to go through it, that's the day to think you do something else.

CM3: Yeah, we didn't have mentors or those sorts of things in our day. There weren't those sorts of posts around, so it's just the people that you work with and they ticked a box for you in terms of they were a slight inspiration for a reason or they weren't. They are the sort of people that help you and mould your decision making into where you have ended up. On a work life type balance, I've felt it was slightly different because I've felt like I was in a race

to get somewhere and those other things just got left to the side a little bit until I'd got there. Life, family life came into it afterwards. It wasn't on the stack of options until I got somewhere and getting somewhere was being a consultant, as strange as that might seem, that was it.

CM2: I have a very understanding wife, who has supported me all the way through, who has never said why are you doing that. This is what I want to do and its fine. So, doing a PhD, I did a PhD in London, but I was working in X, so every other weekend I was in London as well and we had two kids, but you make it work. If your partner is supportive it can work. If you can't, I don't know how you do it because there is an awful lot to do. The course is intense, senior registrar training was longer for me, it was three years, but we didn't have an exam at the end, so it wasn't as intense like that. I started a PhD as a senior registrar and then finished it as a consultant, as its five years part time. Also, for my family, I got free board and lodging in Y, you know, you do need an awful lot of support. You just take it for granted when it is happening. It is not until you look back and you think I did have an awful lot of support.

JJ: Was the work-life balance a factor for you going into?

CM3: Didn't even think of it.

CM2: No

CM3: That didn't even cross my mind either.

CM1: It didn't cross my mind either.

CM3: You know I got brought up with a work ethic.

JJ: But the on calls of doing maxfacs was a barrier.

CM1: Mine was almost, you walk around. I couldn't give you the date, but I can remember the scenario. I was walking around the hospital, on call and this was the times when my on call started, I'd do it all day Friday treatment, clinic, whatever, it would start 5 pm on Friday and end 8 am on Monday.

CM3: I remember those weekends.

CM1: Sometimes you're busy, sometimes you're not, sometimes up at night, sometimes not and I remember walking around at some silly hour in the middle of the night and I remember thinking, I'd just got bleeped to the ward, something simple, sorted it out, came back and I remember thinking do I want to do this? Go back to medicine, five more years of just being a medic again then do your essential SHO years and then you're going to start your training. So, you're looking at least 10 years before you are out of this environment and I was slightly older. I was by the time of finishing university 27, so I was already almost 30, 29, 30. Do I want to do this when I'm 40 and be here? No, that's just. I enjoyed it, but that's not for me.

JJ: Was a facilitator the fact that you could work self-employed and have a salaried position as well.

CM3: It was the self-employed bit, was the bit that interested me coming into dentistry actually, at the start, ironically. I didn't like hospitals and ironically, I ended up in a hospital career. It's strange how that happened. For me, it was more to it than that, in terms of yes there was a package, where you got salaried and you got a pension, that was a good package at that time, but you still had the option if you did want to do a bit extra or dip out or do some extra hours, you could still do that. So, for me that was the flexibility bit that I quite liked. So, that was one of the reasons that quite attracted me to do it, I suppose. But with all the intensions of being a full time NHS Consultant.

CM2: Money was not a motivator for me. Job satisfaction was a bigger motivator for me. I didn't want to run a business. The practices I worked in weren't that great in the general practices, I only did it part time. I just liked the clinical freedom of being in a hospital and not be thinking how much have I earnt today, which is what I was doing in practice. Sometimes when it didn't cover your petrol money to get there, you think why am I doing this? So, it just didn't appeal to me at all.

CM1: Yeah, it's not about the money. Never has.

CM3: Whereas practice now for me is not about the money as such. It's about the other bits that you can't do in the hospital anymore. Using lingual and doing Invisalign because they interest me to do, bit more, something different, again variety.

CM1: Yeah, practice provides me with variety. It just challenges me in a different manner. I've got no doubts that some weeks I walk in there thinking, have I been paid my petrol money? And other times you do. But it wasn't about being self-employed. I didn't want to be my own boss.

CM2: It's funny how fate plays a role and you stumble into things. So, CM1 is in the practice that I'm in and I've been doing it for 25,26 years. But it was the principal of the practice that rang me when I had just started as a Consultant and said do you want to do practice in my practice? And I went, yeah alright. I mean, to do an academic career you need to do a PhD and how did I do that? I didn't go in and think I want to do a PhD. My supervisor who I have known for 30 years now, we get on so well said, do you want to do a PhD and I sort of went, yeah alright. It's not planned, I want to be a dentist and then things happen after that because you think the alternative is this, but for me, it was never that's what I want to be.

CM1: But sometimes those are the facilitators. One of my, I was an SHO, well GPT in Newcastle and Prof N, well Dr N, Prof now, and he was wonderful at saying, just write a letter, alright, because you do it, before you know it, your CV has got these things on it and you've just done what you've been asked to do, and you'll write this thing up. I did one on drooling in muscular dystrophy. I knew nothing about either, and you wrote it up because he told you to. He took it away from me and gave me back, not just changed, I mean changed and he published it with your name on it. Through that and all of a sudden, when you come to do the applications, probably more so now, it's such a tick box exercise to get in over the interview, that things like that, that all of a sudden, you've got all this experience and you've done the research, you've done the audit or done something of everything. Its people like that, they just say, you don't have to take advantage of it, you could just say I don't want to do a PhD, but you just take it, thank you very much and do the best you can, and it opens opportunities and you get lucky. I've been quite lucky throughout my career. Part of that has been being in the right place at the right time, I think.

CM2: Yeah, I also think it works in that, if you are somebody that says, yeah alright I'll do that, someone else will come up to you and say do you want to do this. Is starts the ball rolling, so you get involved in things and more and more seems to appear. Then you've got to start saying no.

CM3: That's the bit you learn at the end.

CM2: Yeah. Why am I here. I'm sure I said no to this.

CM1: Then you do it and another one turns up.

JJ: Obviously you've gone down the academic career, why did you choose to do that?

CM2: As I say, I was very fortunate in that O said, do you want to do a PhD? I really like working with him. He is, his style suits me, he doesn't do what I do to students which is put pressure on them, saying where is this, how far are you along with this. He used to come in on a Friday afternoon at 4 o'clock and go, I'm off down the pub, everything alright? And you'd go yeah, and he'd go off or you'd go down the pub with him. It was just I really enjoyed it, I absolutely loved it. You know you're doing something unique, you know more about it than anyone else and the academic banter that you could have with him and the other people in the department I just find fascinating so that just ticked that box off. I didn't think I would do anything else. And then its circumstance, so we have P who is here, I get on really well with P and he said, what are you going to do? Are you going to keep on doing what you are doing now? I said I don't know. He said, well, Q is retiring, do you want to come in three days a week? And I said, certainly not. He said, do you want to come in two? And I said, yeah alright and that was it. You know, so it's just, I have to say that came for me at the right time. I had been a Consultant for 10 years then and you know you get used to your routine and you think actually I know how to do this now and I need some challenges and that came at the right time. I've been very fortunate that things have just happened, and you make some of your own luck by being prepared in advance, by having the PhD and that.

CM3: You can't plan for everything.

CM2: You can't.

CM3: Because you don't know what opportunities are going to come up.

CM2: No. But it's a gut feeling. I have to say, I loved being in the labs on my own. When I think of it now, from a health and safety point of view, God. I was left in the medical school on my own with all these chemicals. I didn't know, I could have blown myself up. Then following that on, when you come to apply for a place like this and you're supervising the students, you contact other people. You know talk to R, do you want to supervisor a project, yeah, and I'm learning about this project, that I know nothing about and you get it the same in chemistry, mechanical engineering. I know nothing about these things, but I find it fascinating talking to other people from different disciplines. I've been very lucky.

JJ: So, why did you decide not to go into an academic career?

CM3: I knew that one was coming.

CM2: Have you seen what car he drives? Did drive. Go on tell them.

CM3: I mean for me, it was, when I was at Manchester and I did my masters at Manchester, I went to my supervisor who will remain nameless, and asked him, I need a bit of help with this and he just told me to go away and read a book that he suggested, which could have existed, might have existed, might not have existed knowing him. It was just a sort of, lack of, just not really, wanting to be there for that sort of thing, made me think, not sure I really like that. I didn't really have a positive, and the other academics in that department were not happy, which is a probably a good way of putting it and the other one was never there, which I should have taken some note of, because he was always somewhere else. So, there didn't seem much of a, cohesive team or anything else like that. I've naturally sort of gone into a team, a small team of people and I quite like that. So that lack of that at Manchester had a bit of a bearing on me saying, academia is not really for me.

CM1: I don't think I could do it, if I'm honest. My strength are my hands, I like doing mechanics. Throughout my education I've never been the cleverest man. I'm happy with that. I work hard, but I like working with my hands. And that's fine. That's my, I've hit my barrier and I'm fine with that. I like doing the job with my hands.

JJ: Do you perceive any barriers in a career in orthodontics, maybe specifically senior registrar training?

CM2: Now, I mean when I see the senior registrars now, they seem entirely focused on the exam, which comes too soon, at two years. They look like rabbits caught in the headlamps from day one to me. Their training is very structured in that, they have some away days and things like that. But actually, I think you just need to be treating lots of patients.

CM1: Its changed so fast.

CM2: It has.

CM1: You must have seen the change from what CM3 and I went through together, which was what, 10, 12, 13 years ago. Even over our 13 years, the difference in the exam is massive and how that, because it was always an end point. You never really think of it at the beginning. It was just what you did at the end. It is interesting that, the pressure, or the perceived pressure now.

CM2: Its huge.

CM1: People are worried about it now, when you shouldn't be worried about it.

CM2: I was very fortunate in that I got a letter at the end that said, we've been watching you, you're fine. But, now it's all about critical appraisal and management skills and one third of it, is treating the patients. And actually, the management skills, you'll learn when you turn up somewhere because they are different in every place. And critical appraisal can't we have ticked that off when you're doing your specialist training in your first three years? You've done a literature review, you've done a DDS, journal clubs every fortnight and now you're expected to be a statistician and a researcher that's meant to know how to set up projects. I think its got out of hand. I think the people that are setting the exams have got it wrong. So, that would put me off.

CM1: Yeah and in fairness, it would put me off too.

CM2: I think I would have gone into practice.

CM1: Yeah, being faced with that because you're right, for MOrth, you do your stats, you learn your stats for the exam and learn the bits you need to know but you don't become a statistician. That's why you talk to statisticians, they're good at that.

CM2: I think being a senior registrar was one of the best times of my life because it was like being in the lower sixth. I didn't have any exams at the end, I wasn't taking A levels. I had three years where I made lots of decisions, but there was always someone there I could say, how do I do this? What should I do? And they'd look after you, people did look after you. And now you just think, they are under immense pressure.

CM3: And there's not the same attraction with the end product either. When I was coming through, you felt that a Consultant post was a post for life, was a good package generally with it, pension amongst other things and people who were, generally the people above us who were at higher levels, who had gone through the whole thing who very happy, had fulfilling careers, lots of variety and other things involved in it. Even cherry picked to some degree, what they did and didn't do. Had a lot of autonomy and now you look at the workforce and generally speaking those things aren't there. They are there to some degree, but much less so. So, therefore the end thing that you are working for, is less attractive, but the process to go through seems more challenging and doesn't necessarily prepare you better either, because clinically that's the majority of what you are going to do.

JJ: So, do you feel that your idea of what it was going to be like is different now?

CM3: Its changed over the last 13 odd years that I've been in it. But, for me it is like it was, like I had envisioned to some degree because I was there 13 years ago and also, I've worked at carving out what I wanted to do and also things have fallen across my path as I've gone along, and I've thought, yeah, I'll give that a go. I've been lucky enough to have some flex and be able to do those things. What worries me now is people coming into jobs and there is no flex and they say they want to do other stuff and it's like no, can't do that because you've got to be doing this and there isn't that degree of being able to say well for the next five years I'll do this, or I'll concentrate on this being my priority and then change a bit, attack my PhD or whatever it is you want to do and I don't think that ability to be able to do that is so easy, so that makes it less attractive I think for people.

CM2: I think it depends a bit on the trust that you are working in. This trust is very restrictive and it's all about bums on seats and nothing else. Whereas I think in Bath for instance, there are still opportunities to carve out what you want to do. But I think in a big organisation like this, I don't think there is. This is unique in that you've got a university and an NHS as well. But, I think CM3 has also hit on the point also that financially you always thought that Consultants were really well off, but you hear of junior doctors contracts being talked about and being basically a pay cut, you're talking about Consultant pay cuts and then lifetime allowance on pensions, annual allowance on some pensions and you get to the point and you think, well why am I doing this? I should go into practice but then again there is so many changes in practice at the moment.

CM3: I think we are in danger of making them all specialisations, ortho in particular unattractive, because there is no like nice, practice isn't looking rosy at the moment, hospital isn't looking that rosy.

CM2: Particularly when you are paying so much to do it, because you're paying £9000 a year, plus your bench fees and you're probably not earning as much as you could be, as if you were just in general practice. So, there's a double whammy there, whereas I was quite happy to take the general practice hit and know I wasn't going to get paid as much but I didn't pay very big fees at all. But you know, orthodontic registrars get paid a salary, but they don't in other specialities. If you're doing endodontics, you don't get a salary. So, you worry that is going to be the next thing. You'll just be paying to do the whole thing and I think that probably will kill it.

CM3: In the format that it currently is, yeah, and then it will become very small numbers.

JJ: Who can choose to do.

CM3: Or afford to do it.

JJ: That's what I mean, yeah.

CM2: Because if you are coming out with a big undergraduate debt, you end up with a big postgraduate debt and you think well I've got to pay this back somehow. I'm not saying

we're poor, relative to the average wage it's still pretty good, but you are training for a long time which is costing money.

CM1: I think debt has got more. It's a good job and it's a shame in some ways that you used to look at say consultants not just medical, dental as being top of the tree if you like, aspiration and many reasons for that and at the forefront. People would come to you and say try this out, all that sort of stuff. Those days have definitely gone, we're no longer seen, people don't aspire to be consultants often, not so much as they once did. You certainly don't get the manufacturers coming in and saying please use this, even if you have a good relationship with one, often the trust will often knock it out, even if it is a bargain and say, you can't do it that because it's not fair or proper whatever the words are, which is a shame. You certainly earn more money in practice then you do as an orthodontic Consultant, but we earn good money. I suppose, we're all from similar backgrounds, but we know we earn good money and it's just you can't earn as much, and you still earn a bloody salary, but you could earn more doing different stuff elsewhere. It must be a factor and if you're coming out and you've got the opportunity to earn money to pay off your debts. My bench fees were three grand full stop, 1800, 1800, 1200 for all of it. You come out now, university charge £9000 and bench fees. I mean, how dare they charge £9000, I cannot understand how the university can charge you £9000. You do not get £9000 worth, in my eyes, more than what we did. I don't understand how they can charge that. It's almost like over the years it used to be graded all of a sudden, its £9000, 9 plus 9 plus 9 plus bench fees on top of it and you've already come out with potential undergraduate debt. I worked throughout university. I minimised mine and worked on phone lines and stuff like that. I guess when you come out if you are faced with, an opportunity to turn left and earn £100,000 without doing more training and pay it off quicker or turn right earning £50,000 and you're still paying your debt off and you've got £80,000 worth of debt and you don't need to move and maybe you've got a partner and maybe you'd like to buy a house or commit to something, I'm sure it would change your mind set. I get that, clearly, I get that.

CM3: It all seems doom and gloom.

CM1: But I really like my job. The core job, I really like being an orthodontist. I think it is a wonderful job. The rest is just part of that. The core job is a really good job.

JJ: So, you have touched on the cost of training. What do you think about the length of training?

CM2: It's too short if you are going to become a consultant. Its five years, it should be at least 6. I mean three years to be a specialist, three years as a senior registrar. It goes so quickly.

CM1: It's not even that really, you start in the October time and you're finished the following May, you're in half time.

CM2: So, you see some, the FTTAs now don't see a lot of finished cases. They leave with the drossy ones being left behind, but you actually learn an awful lot by treating the drossy ones.

CM3: Yeah exactly.

CM2: And when you pitch up, day one as a Consultant, on your own, with nobody around you, and I know it's only teeth, but you think I've got to make the decisions now, there's no one else to turn to. So, I don't get regret three years, it goes so quickly. I think it's too short.

CM1: Yeah, I agree with that. Too short and maybe wrong focus.

CM2: Yeah, focus is wrong.

CM3: Yeah, I think they've lost the focus actually.

CM1: You should be treating just hard cases.

CM3: A little less of away days.

CM2: Yeah and also getting treated more as another colleague, rather than a senior student.

CM1: Yeah and I was fortunate I was in Bath with Professor and you would spend your lunchtimes, talking cars and talking cases. When Helen was in, we spoke about cases.

CM2: When I was in, we spoke about cars.

CM1: It got me the balance right. It cost me a lot of money those conversations.

CM2: Yeah, he nearly bought an Audi TT, in the end he ended up buying a Nissan 53z, but that's beside the side.

JJ: What do you think about the competitive nature of recruitment?

CM3: It's always been competitive. I don't have a problem with that. I think what is lacking now, at some levels, is real competition actually. Because maybe at the first three years there's competition in national recruitment but having interviewed at the FTTA level recently there's not competition because there are people going for a post and you know that, because of where they are, they want to stay there, they are the only applicant putting it down as their first choice.

CM2: Yeah, I mean we had a whole day of interviews, along the lines of national recruitment, we had to bend wire, do presentations and all that. It was hard and there were lots of people going for it. So, when you got a place, you thought, I've worked hard to get this and then for senior registrar jobs, there were four or five people per job and it was very competitive. Similarly, for the Consultant jobs, there would be five people applying and now you get either nobody applying for FTTA jobs or nobody applying for Consultant jobs and it's really sad the ways its.

CM3: Yeah, 50 unfilled posts, of Consultant posts.

CM2: I think it is good that it is a bit competitive.

CM1: I sometimes wonder whether it becomes so standardised, its robotic. I don't know how you get around it and make it, but somewhere along the lines, it would be nice to, no one looks at the personality. It's like coming into dental school, the modern-day dental students, not very generalised, but it's very robotic. People say the same about doctors, you've got to be compassionate, dentists have to be compassionate too. You have to be able to talk to people and I think in dental school we get that wrong. In orthodontics again it's so, da ding, da ding, da ding, you could have someone that wasn't so great over there but brilliant over here but wouldn't get the opportunity unless you hit these margins. I think, and I know why, because its competitive entry, but I think you miss out. You miss out, I'm particularly bias because there is no way I could get into dental school now and there is

probably no way I could get onto orthodontics and I'm ok. I've done alright and I think maybe it has become a bit too narrow.

CM2: I think we all think that, in terms of we couldn't get on, it's just the grey boundaries that have changed so much artificially. There were people below me that got in on 2 Es, then 2 Ds, then 2 Cs and now you tend to assume that because people now need to get 3 A*s that they are wonderfully brilliant, and I don't think they are. It's the whole schooling system, I mean we're opening up, it's all very formulaic. You've got aims and objectives for everything and where are my notes? There's no ownership of I need to do this. Its all, where is it all? Stuff being presented to me.

CM3: We are at a point where at dental school interviews, last year I found that I got virtually the same answer from a whole group of people in a morning. I was asking about a book or a film, I can't remember exactly, but virtually a load of them gave me the same answer in parts of the response, liked they'd all been coached, this personal thing.

CM2: Superhuman.

CM3: It was the same kind of thing about being independent and all this sort of thing and almost word for word exactly the same from virtually all of them.

CM1: But you want to look them in the eye and say why do you want to be a dentist? Because I really really want to. I'd take them.

CM3: Extracting a personality is actually more important.

CM1: Did that answer your question?

JJ: Do you think the location has anything to do with people not applying for FTTA?

CM1: Has to be. If you combine that with the debt question. If you're coming out with, pick a number you like, and you are relocating.

CM3: There is a cost to relocating, ultimately. So, you're not going to do it, unless there is a very good reason.

CM2: Also, there is no competition. So, actually if you have a choice of going to half a different places, you'll narrow it down and say that's the one I want to go to. For me, it was where is there a job? It's three years, I'll go anywhere. Whereas now there is no competition, people will choose more. Perhaps we were all, I mean we're three old farts and we've all said we never thought about the consequences of training. You just did it and the support was there, fortunately for me, you just did it. Whereas now there is more of an emphasis on work-life balance. You hear it all the time. What's your work life balance like? I dunno, I just go to work.

CM3: You know in my first few years I went to Belfast, to Brighton, to Manchester, to Blackburn, to Bolton, to Barry, to Burnley and then back to Manchester.

CM1: You liked Bs, didn't you?

CM3: Yeah, I like things with a B. Then got a place at Manchester, but that wasn't planned. I either went where there was a good job and I got it, or I didn't get it. One or the other. I didn't think about, it wasn't really part of the plan.

CM2: We know some people come on the postgraduate course that didn't really want to be here, which is sad, because you think, if you don't want to be here, why did you preference it? Why did you do it, if it is that bad? But if you really want to do orthodontics, you'll go anywhere. You don't think I don't really want to live here, you just get on with it.

CM3: You're just glad you got a place.

CM2: It is no time at all. But you only realise how short the time is when you look back. It's like your first year on the course JJ, thinking this is never going to end.

CM3: You come in thinking, when is this going to end?

CM2: Panic.

JJ: What do you think about the 18 months continuous training rule on women going on to have maternity.

CM2: Maternity leave is tricky for a course like ours, in that it is a three-year course and we haven't got a course every year. So, you can't say I'll come back in any time. Does it have to be 18 months continuous? I'm not sure it does, I mean if you do a three-year programme and you take four-years to do it, I don't think it really matters. I can't see the idea where it has to be 18 months.

CM3: No, I can't see the point in that, particularly with the other things that are in place like WBAs and ARCPs and all the rest of it these days. If you are competent and people think you are ok, and they can sign you off what does it matter that its continuous bit?

CM1: The continuous bit is a bit of a strain, isn't it? I think you have to do the time.

CM3: Yeah, do the time.

CM1: I think absolutely have to do the time. I don't think it's good for the training, let alone anything else to essentially not be there for a fair degree but you're never going to end training but whether or not, the number 18 seems almost out of the air, but you have to do the time. If you truncate it, how you do it, divide it up with maternity, long term sick or something, you do your time and then at the end of it, fine, but if it's divided up, its divided.

CM2: You have to be careful, I mean. When I think back to senior registrar days, there was a senior registrar, a couple of years above me, who had been a senior registrar for seven years because she had three children. But that was partly because the people running the SAC at the time were all men. They were almost penalising her for having a baby. Seven years as a senior registrar, she was a very good consultant. But it's just getting the number right, not right now you've got to do more or make it 18 months continuous. So, if you had a baby 6 months before the end, do they say, hold on you've had 9 months off now, so you haven't had 18 months of continuous training up to taking the exam. I don't know how it works but it seems a bit odd.

CM3: 18 months is the average length of the course for treatment, so is that why they've picked that out there? But you never finish all of your cases when you finish your training, anyway. You start a load.

CM2: There is talk at the colleges of not presenting trophy cases at all, which isn't going down well. Sorry JJ are we going off topic? Off-piste?

JJ: Anything else to add, about maternity?

CM2: I think if you do the time, it doesn't matter. I'm just not sure the 18 months make sense.

CM3: I'm sure it does to someone.

CM1: The difficulty is, there is a knock-on effect to it, which doesn't affect the trainee. But a course like this one, or any one, where numbers are tied, numbers come with funding, there is a knock-on effect and there might be a, hopefully on this course, a pressure on people to not have babies or because of the maternity. The pressure of your three years are bang and you must give your number back in and I think as a trainee, you just have to do your time and that's right for them as well as anyone else.

CM3: Yeah, I have to be a bit careful, my wife is an employment lawyer, so it is one of her hot topics, so if she hears me saying something detrimental.

CM2: It'll pay her bench fees.

CM3: Yeah, I just think it is just a question of fair works both ways. To me, if it is a three-year course, you do three years and how you do the three years doesn't matter. It is an organisational nightmare for people running courses, but that is another matter.

JJ: Focus group close.